



# AMERICAN FORESTS

FEBRUARY 1947

35 CENTS

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# AMERICAN FORESTS

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THE COVER  
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Ponderosa Pine  
Harry H. Haworth

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**The Purpose**

The American Forestry Association is a national organization—educational in character—for the advancement of the intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is (1) to bring about adequate protection and perpetuation of these resources by creating an enlightened public appreciation of the need of conserving them through wise use for the present and future welfare and enjoyment of all the people; (2) to make available to Americans in all walks of life a wider knowledge and appreciation of their forest resources and the part they can play in the social and industrial life of our nation.

**The History**

MORE THAN half a century ago American men and women of vision, stirred by the rapid destruction of forests and forest life in the United States, began to raise their voices in behalf of conservation. Foreseeing the danger of allowing America's rich forests and vast natural wealth to be thoughtlessly wasted, these public-spirited individuals protested the needless destruction that was taking place. Out of their efforts came a collective force—The American Forestry Association, first organized in 1875 and made a national influence in 1882.

**The Record**

THUS The American Forestry Association has a long record of efficient public service. The establishment of the United States Forest Service and the creation of the nationwide system of state and national forests and parks were due in no small part to the Association's efforts. Its education work, extending over more than seventy years, has stimulated public action and built public support for protection against forest fires and floods; for prevention and control of soil erosion; for the development of conservation policies in forest management for continuous production through wise use; for the control of forest insects and diseases and the preservation of fish and wildlife.

**The Support**

FROM AN ORGANIZATION of a few hundred members three decades ago, the Association has attained a substantial membership of many thousand men and women, living in every state in the Union and in foreign countries throughout the world. The funds of the Association are administered by a Board of Directors composed of individuals of national standing—men and women who give their services free, who have a practical understanding of the nation's present-day conservation needs, and are equipped through experience, ability, enthusiasm and training to advance the Association's program.

**The Program**

BECAUSE OF its independent, non-political character, the work of The American Forestry Association is vitally necessary in the field of public service. It provides an unprejudiced influence for the development of sound conservation measures. It helps coordinate public, state and federal policies. It cooperates closely with federal, state and private agencies in conservation work. At the same time it initiates, sponsors and carries on needed projects in conservation in addition to its regular broad continuous program of education.

**We Log  
Weeks Longer Now!**

We stay in the woods weeks longer . . . get out more logs now that we've been able to stretch our logging season. We used to stop operations when the ground got mucky and mired down the tractors. But that was before the Oliver "Cletrac" dealer came up here and saw us trying to haul a tractor out of some sticky going.

He watched us with a big grin on his face and then came up with this. "If you had a Cletrac, you wouldn't be wasting all that time."

"What's different about Cletrac?" I snapped.

"Just this," he came back, "Cletrac's have an exclusive protected high clearance that lets them stay weeks longer in the woods in bad weather without miring down. They're real 'mudders.' They slide right over rocks and stumps. I'll take you over to the next camp where some Cletrac's are working and prove it."

Those Cletrac's in the next camp were working and in far worse going. It was proof enough for me. We've standardized on Cletrac and on our Oliver Cletrac dealer. He's a good guy to know.

**Cletrac**  
a product of  
**The OLIVER Corporation**



### Blazes!—We Quoted!

**SIR:** On page 571 of the December issue, in the interesting article, "The Land That Slept Late," a sentence reads: "The blaze had grown with the tree and was now about ten feet long."

Did the blue pencil boys slip up on that one or are tree growth characteristics in the Olympic region different from those in any other place I ever heard of?

As a forester I would be interested to know whether the members of the expedition really thought it a blaze made by human hands. Sounds to me more like a blaze or scar made when the tree was young by another tree falling against it.

There will be some who take that statement as fact just as there are some who look into the top of an old tree for a blaze made when the tree was young.—*C. L. Woodman, Department of Conservation, Oxford, Massachusetts.*

(The sentence to which Mr. Woodman refers is part of a quoted extract from the notes made by the exploring party into the Olympics back in 1889. Editors commit some terrible crimes with blue pencils, but not many of them would go so far as to try to change historical notes. And those old-timers can hardly be blamed for not knowing that a tree blaze does not grow up with the tree.)—*EDITOR.*

### Another Family Discovers Forestry

**SIR:** My wife and I have just returned from a trip through the hills and valleys of Vermont and I want you to know just what membership in The American Forestry Association has done to us.

We visited an old farm just off Route 8 in Weston, and immediately fell in love with the toppling old house and the peaceful valley in which it is situated, so we signed a contract to take it over in April.

The property includes about 110 acres of hillside woodland, the pro-

verbial brook and two of the most conveniently situated boulders you can imagine, and both plainly visible from the government maintained road that passes through the center of the property on its way into the Green Mountains National Forest. I have since learned that the forest borders on two sides of our newly acquired land.

The boulders mentioned are almost exact duplicates of the one pictured at Ivy Hill in your September issue (*A Family Discovers Forestry*). Will there be markers on them? There certainly will be.

But having been a city dweller for most of my 60 years I'm going to need quite some advice on how to keep my newly acquired forest in order to make it worthy of its next door neighbor.—*Hugh Slevin, Staten Island, New York.*

### 4-H Forestry Leadership

**SIR:** Reference is made to the article appearing in the November issue entitled "Mississippi Shows the Way in 4-H Forestry."

Without in any way detracting from the splendid accomplishment by 4-H Club members in that state, I think both pioneering and leadership in 4-H forestry belong rightly to New York State. No other state has developed and maintained for 20 years a five-year program in forestry each project year of which is backed by a special bulletin written specifically for 4-H Club members.

4-H forestry got under way in New York in 1923 when the State Conservation Department first assigned free trees to private individuals for demonstration purposes. In 1926 a special allotment of trees to 4-H members was made, and this allotment has continued now for 20 years. Including the 1946 season, 4-H Club members have been responsible for planting 20 million trees in the first-year forestry project. Hundreds of thousands of additional trees have

been purchased and planted by 4-H forestry club members to make substantial forest areas.

Following tree planting, the young 4-H Club member takes on in yearly succession tree identification, woodland improvement, log scaling, timber estimating, and the establishment of a hardwood seedling nursery. During the past two decades, local sportsmen groups have offered yearly cash prizes for county winners in the tree planting project. The Empire State Forest Products Association has awarded three prizes on a state-wide basis for outstanding accomplishment in the second-year work. Beginning in 1930 and continuing for 12 years, or until the war intervened, The American Forestry Association awarded annually an engraved plaque to the 4-H boy completing the outstanding third year project in woodland improvement.

The first 4-H Club boy to be sent to the 4-H Club Congress in Chicago on the strength of his forestry record was Arthur Crosby of New York. This was in 1944. The entire expenses of this trip were defrayed by the Cotton-Hanlon Lumber Company of Odessa, New York. This forward-looking company has since made this support to 4-H forestry an annual affair. Both the 1945 and 1946 winners from New York to the Club Congress, also won a \$200 scholarship in forestry made available for club members south of the border by the Quebec Forestry Association.—*J. A. Cope, extension professor of forestry, Cornell University.*

### Knowing Your Street Trees

**SIR:** I believe you could step up your membership a great deal by having a write-up and pictures similar to the ones on timber trees (*Knowing Your Trees*), on exotic or native trees used for streets, parks and landscapes of our American cities and highways.—*Willard Hagen, Long Beach, California.*

# Fight the way to Fire Prevention!

## BOOK MATCHES IN THREE COLORS WITH A FIRE PREVENTION WARNING!

The all-consuming flame of forest fire, shamefully branded on the carelessness of a nation, must be constantly fought. You can do much to snuff out this leveling threat to our nation's prosperity.

With your support, The American Forestry Association Book Matches — effectively broadcasting the theme of FIRE PREVENTION—can be circulated far and wide as a check-mate on negligence. On your part, the effort is slight, the expense little, the rewards great.

Additionally, you gain prestige by your support of this nationally important drive. Definite advertising advantages also are obtained, for your name is literally "lighted up" each time a match is struck—twenty times per book. Goodwill, too, will be yours, for when you distribute these Book Matches bearing your name, the usefulness of the gift itself—and the thoughtfulness of the giver—will be appreciated as a gracious courtesy.

Light the way to FOREST FIRE PREVENTION now by filling out the coupon below, mailing today.

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These attention-arresting Bookmatches are strikingly designed and beautifully printed on a bright yellow background in fiery red and vivid black. You'll be proud to thus support this vital cause.

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#### THE AMERICAN FORESTRY ASSOCIATION

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# Editorial

## Lest Congress Forget

AT the 50th annual convention of the American National Livestock Association, held in Phoenix, Arizona, January 8-10, western stockmen touched off a conservation storm that before the 80th Congress is over may rock the American people. And if the new Congress fails to raise its guard against hasty action, the storm may rock political fortunes as did the Teapot Dome and the Pinchot-Ballingen exposures. The issue involved in this instance is not just oil or coal but virtually all the public lands lying west of the Great Plains, embracing some 400 million acres.

The Phoenix proposals are bold and insidious. After prolonged condemnation of the administration of forage resources of the national forests by the Forest Service, the stockmen passed resolutions calling for a congressional investigation of the national forests and for passage of legislation to eliminate grazing lands from the forests and make them available for private acquirement. Apparently to ameliorate this proposal, the resolutions contained the alternative of transferring such lands to the Department of the Interior for administration by its grazing service or for leasing out or sale. Those who have followed the recent history of Interior's now disorganized grazing service will see in this alternative the same end-objective; namely, private acquirement of public grazing lands by stockmen who now enjoy the permit privilege of grazing their herds within the national forests.

To understand the circuitous import of the Phoenix resolutions, it is necessary to consider them in relation to other recent events relating to the grazing districts created under the Taylor Grazing Act. This Act was passed in 1934 after 30 years of conservation effort "to stop injury to the public grazing lands by preventing over-grazing and soil erosion and to provide orderly use, improvements and development" of the public ranges. To put into effect and administer the provisions of the Act the Interior Department set up the Grazing Service.

While the Department's system gave the stockmen, through local boards, a larger hand in administrative affairs than they enjoyed on the national forests, they nevertheless appear to have champed under the bit of restrictions in the use of public lands on which they had in the past ranged their herds on a free-for-all-devil-take-the-hindmost basis without let or hindrance by the federal government.

Although the grazing fees established by the Interior Department are only about one-seventh of those prevailing on the national forests, the requirement of paying even a modest fee for the privilege of using public ranges has been an added irritation to many grazers. In any event, when the House Committee on Public Lands a year ago raised the question of increasing the fees to a more equitable level, stockmen protested vigorously and the proposed increase was blocked by breaking the back of the Grazing Service.

What happened was that Congress cut administrative funds of the Grazing Service to a point which makes range management virtually impotent on some 145 million acres of public lands. The head of the Service and 60 percent of his field staff were displaced or forced to resign and the Grazing Service itself has been merged into a newly formed bureau—the Bureau of Land Management—with the General Land Office, whose historic lack of conservation management of public lands forced the passage of the Taylor Grazing Act as a measure to save them from eventual ruination by overgrazing.

Secretary of the Interior Krug, it is hoped, may still be able to save this Act, but we think he will have to be much more aggressive and better directed in the public interest than events since he took office now indicate. There was introduced in the last Congress and there has been reintroduced in the present Congress a bill (S. 34) which if passed will make it possible for stockmen by a

60 percent vote of permittees using public grazing districts to dissolve the districts, in which event they shall revert to the status of unreserved public lands and become available for leasing. Under the Department's leasing system, this means virtually unregulated grazing.

Piecing its parts together, the picture takes the form of an overall plan of strategy not only to destroy the grazing districts of the public domain but to break up the national forests. As we read the strategy, it is to put pressure on Congress to eliminate grazing lands from the national forests and give present permit holders a preference right to acquire such lands in fee simple. Failing in this they would have the lands brought under the administration of the Department of the Interior where they could be voted out so far as regulated use is concerned and made available for purchase.

As a raid upon public resources, the plan is astounding in its audacity. Nevertheless, it is within the historical pattern of periodical efforts of western stockmen to break down the national forests through congressional legislation and to acquire control of the forest ranges. We cannot believe that the 80th Congress will be trapped by this strategy; certainly not if it reviews the record of the past 25 years and gives free and open hearing to all bills bearing evidence of stockmen's interest and influence.

The latter are entitled to fair hearings of alleged grievances but such hearings should be in the open. And above that, it is the obligation of Congress to give the American public full opportunity to be heard. This, for the reason that the lands and resources at issue are the property, not of the stockmen or any other special interest, but of all the people. Furthermore, the national forests and the grazing districts represent the greatest public conservation achievements of the American people. Let Congress not forget that double-edged fact.

◀ "Cypress Labyrinth"—Photograph by Devereux Butcher



# TREES AND JOBS FOR 100 YEARS

By W. B. GREELEY

*"THIS agreement shall . . . be binding upon the parties here-to, their successors and assigns, until Dec. 31, 2046."*

Stability, for a full century, is the keynote of the cooperative sustained-yield agreement just concluded between the U. S. Forest Service and the Simpson Logging Company, operating at Shelton and McCleary on the west side of Puget Sound, in Washington.

Here we see in the flesh, for the first time, the conception of cooperative forest management by this government and its citizens, long dreamed of by forestry leaders and sanctioned by Congress in Public Law 273 (March 29, 1944).

The stability is tangible and real. One hundred and fifty-nine thousand

acres of company lands are merged, for the 100 years, with 111 thousand acres of national forest under unified management for continuous production. Their yield is estimated at 90 to 100 million feet of timber every year; but thickening growing stocks on portions of the area should increase this annual harvest as time runs on. The entire cut will flow into the lumber, pulp, plywood, door, furniture and fiberboard plants at Shelton and McCleary.

This agreement underwrites—for a century—the security of two forest-borne communities. It insures the jobs and payrolls of 1,375 workers at Simpson logging camps and mills and the livelihood of the 6,000 people whom they support. More than that, it offers to loggers and mill employees the best opportunity for satisfactory working conditions, for good schools, family life and home ownership. Sustained yield under the Shelton plan stands at the opposite pole from the "stag camps" and "blanket stiffs" of pioneer logging.

The preparation of the government for this unique partnership goes back to the Act of 1944; but the preparation of Simpson Logging Company goes back 50 years. Very largely, the agreement consummates the life-long work and planning of Mark Reed.

Mark Reed appears in the early days of "high ball" logging and railroading in the South Olympic Country. He was one of many two-fisted men who played the timber game of those exciting times according to its rules. He was a leader in the rough and ready engineering skill and mass production of the Douglasfir logging industry. At times his operations led Puget Sound, with an input of 300 million feet of logs a year.

But Mr. Reed looked beyond the zest and hurly-burly of the early logging game, to the future of the industries and communities which he created. When it was common practice for a logger to quit paying taxes on a section of land as soon as its timber was cut, letting it pass to county ownership, the Reed com-

**THE AUTHOR**, one of America's most distinguished foresters, and formerly chief of the United States Forest Service, is Chairman of the Board, American Forest Products Industries, Inc., and vice president of the West Coast Lumbermen's Association.

panies kept their cut-overs. As a member of the legislature for several terms, Mr. Reed took a large hand in shaping the early Forest Code of Washington—the law requiring every forest owner to pay for protecting his land from fire, all his land whether logged or not; the organization of forest protection associations; the successive steps in forest safety like obligatory disposal of logging slash, and the equipment of camps with fire pumps and tools.

Back in his own woods, the master logger became the community builder. The same practical sagacity which created a successful business in the days of cheap timber and cut-throat competition gradually shaped it into a permanent institution: First, a permanent stake in the land, which was not to be mined-out and dropped but held and reforested; then a staff of experienced foresters to work out plans for logging and regrowing timber so as to direct the whole enterprise toward continuous production. Additional industries were brought

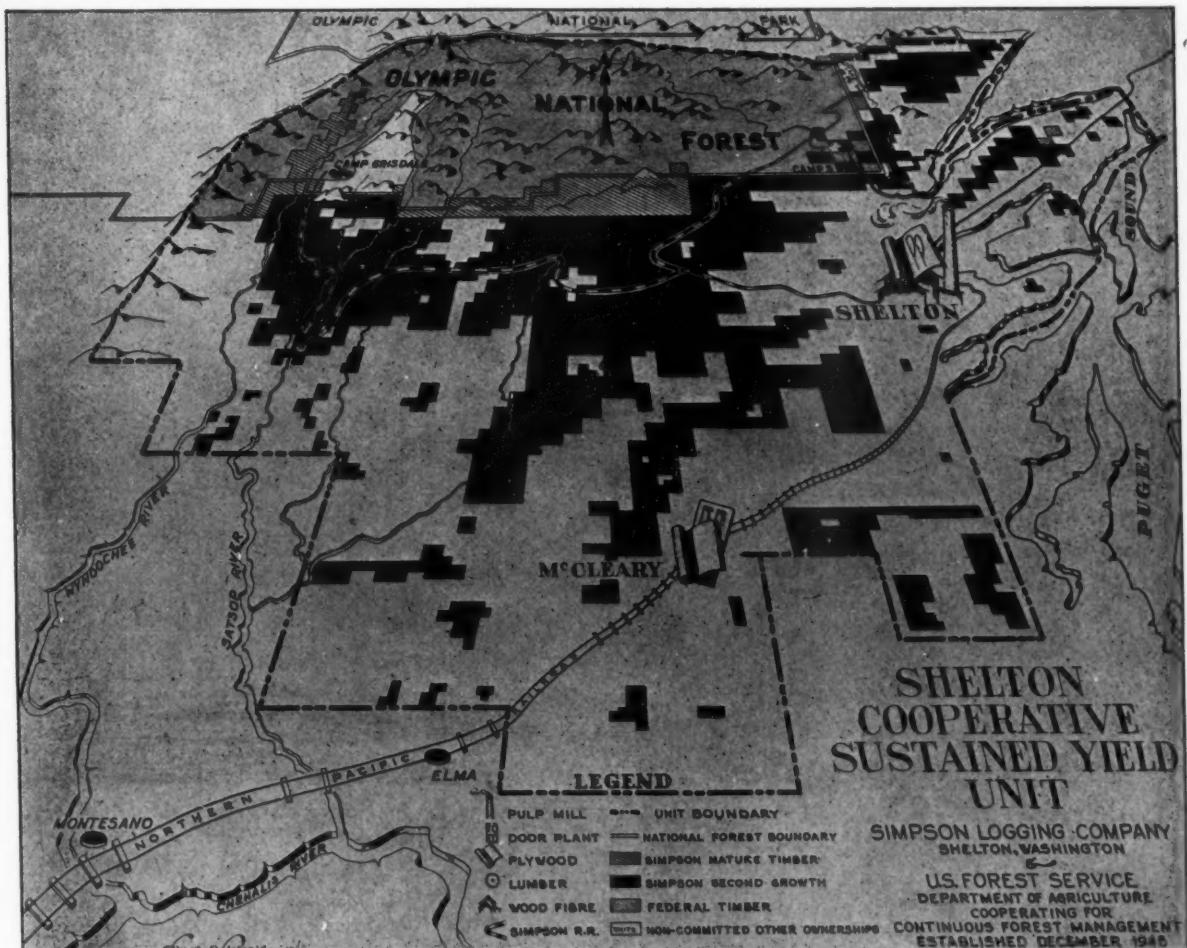
## Uncle Sam and a Pacific Northwest logging company become partners in sustained-yield forest management—the first agreement under the Act of 1944—and establish another milestone in U. S. forestry

to Shelton, including a large pulping mill of Rayonier Corporation, in order to utilize to best advantage all species of wood grown in the region and augment the local payrolls. And always there was a friendly, far-seeing interest in the community itself and in the company employees, whose welfare was outstanding in Mark Reed's planning.

Mr. Reed was a man of few words and infrequent public appearance. But in practical ways, pursued quietly through many years, he strongly led the basic industry of the Pacific Northwest toward a permanent forest economy. This viewpoint toward land, labor and communities was Mark Reed's great legacy. His sons and associates have carried on for the last 10 years.

The cut-over lands kept off the county rolls in early days, protected from fire and expanded by purchase, are now part of the Simpson Logging Company's tree farm of some 170 thousand acres. It is an intensively managed forest, where fire roads are constantly maintained and a million trees are planted every year to fill in blank spots in the prolific natural restocking. The panorama from Simpson Lookout is a vast expanse of young timber that challenges the best forests of Europe in sheer productiveness.

Five years ago the company bought out the neighboring Henry McCleary Timber Company with its sawmill at Shelton, its plywood and door factory, cut-over lands and the town of McCleary itself. McCleary was due



shortly to cut its last log, junk its mills and pass into history, following the familiar pattern of "cut-out and quit." The purchase saved McCleary from drifting into a ghost town; added 495 employees to Simpson's permanent job-list; and brought additional products and methods of manufacture into the circle of Simpson industries.

Meantime, like other Northwest lumbermen, the company worked persistently on the utilization of its logging and milling wastes. Since the bull teams began hauling Douglasfir logs down puncheon roads, one of the great handicaps of West Coast forestry has been the vast accumulations of wood for which no cost-paying market could be found. The leftovers in the woods, low-grade logs, tops and slashings, usually took toll of a fourth of the standing timber and created a terrific hazard against the safety of the forest. West Coast mills have struggled with a flood of sawdust, shavings, mill ends and trimmings, defective wood and lumber too poor to sell, accounting for another quarter of the crop which the forest had grown. Except for hemlock and other pulping woods, the best that could be done with these thousands of tons of cellulose and lignin was to grind them into fuel where a local market could be found.

Wartime prices opened the way to use some of the former leavings in the woods for sawlogs or pulp stock;

**A million trees have been planted yearly on the Simpson Tree Farm. Under the agreement with Uncle Sam, the company will continue to replant at the minimum rate of 1,000 acres a year**

Simpson Logging Company



Photo by Grady

### MARK REED

**The agreement consummates his life-long work and planning**

and new technologies now give promise of by-products, like industrial alcohol. After two years of research and experiment, Simpson Logging Company is installing its first unit for converting waste Douglasfir into pressed fiberboard. There will be several grades ranging from acoustic tile to plaster base. This plant will utilize sawmill waste previously burned under the boilers. Other

fiberboard units are planned to manufacture Douglasfir logging slash down to six inches in diameter. They will create a commercial use and market for woods waste not only from the company's logging operations but from small camps and farm woodlots throughout the region.

With the local pulp plant to take mill and forest refuse of hemlock, white fir, or spruce, the cooperative management at Shelton will lead the way in the industrial use of Pacific Northwestern forests. This is the region's great economic need and opportunity, running parallel with the regrowth of the forests themselves.

The Shelton plan, like applications of the same cooperative principle under a different statute to the revested Oregon and California grant lands, was opposed at local hearings as a monopoly.

The program does involve monopoly, to the extent that for 100 years Simpson Logging Company is given preference in buying such timber on 111 thousand acres of national forest, as the government may determine to cut and at such prices and other conditions as the government may require.

In consideration of this preference, it is worth noting what contract obligations the company has assumed.

In all essential respects, the company's 159 thousand acres of forest are placed under government direction and control. This includes the rate and manner of cutting, the ade-





Simpson Logging Company

**Sustained yield under the agreement underwrites for a century the security of two forest-borne communities — Shelton, shown here, and McCleary. It insures the livelihood of 6,000 people**

quacy of protection from fire and control of any uses of the land, like farming or grazing, that may be injurious to forest growth.

The company is bound to plant trees on any part of its land where

natural re-seeding may fail or be killed by fire—at any time during the 100 years. The company must replant the blank spots on its holdings which were logged *before the date of the agreement*, at an average

rate not less than 1,000 acres every year.

The logging roads built by the company must conform with government standards and location plans;

(Turn to page 88)

**Shelton's industrial area. The company must maintain plants sufficient to process 80 percent of all forest products removed—must utilize to degree of "economic feasibility" all timber cut**

Simpson Logging Company





Royal Palm of Hawaii

# *They'll remember the Coconut Palms*

From the moment they hit their first island beach, American GI's in the South Pacific became "coconut conscious." Here are some of the things they will remember about this graceful and important tree

## By R. P. PARSONS

THE two GI's stood at the rail of their homeward-bound transport looking back at the waving palm trees of a Pacific island.

"Bet you won't forget those coconut palms in a hurry, Joe."

"Funny thing when you think of it, how much that tree means—not only to the GI, but to every native on those islands."

The Americans had learned much about the coconut palm since they first hit the islands. They found out that it grows in a wide, equatorial belt across the Pacific. Wherever there is land, whether volcanic island or coral atoll, often in soil that will support no other tree, the coconut flourishes, produces and reproduces.

With the exception of Iwo Jima, the Aleutians and the Ryukyus, every beach invaded by American troops in the Pacific was lined with palms. The boys could see the coral atolls miles sooner because of the palms

rising often to heights of 100 feet. Except for these trees, places like Eniwetok, Kwajalein and Tarawa could not have been seen until the boys, approaching in small amphibious boats,

were within sound of the surf pounding on reefs and beaches. Even if they came in by plane, the first objects they saw in detail were the tops of coconut palms, in straight rows, miles long, if they flew over some great plantation.

The boys became "coconut conscious" at the first moments of the landings when they discovered the effective hiding places of enemy snipers—camouflaged and silent until the deadly fire of their rifles poured from the frond tufts at the tops of the trees.

Fighting would come to an end on an island but acquaintance with coconuts would be just beginning. There would be much to learn about them. Every day some new use or significance would be discovered.

In one of his first lessons, the GI learned the safety of coconut milk, its thirst satisfying qualities, its ready availability at times when his heavily chlorinated canteen water had been consumed. He learned that the best milk came from the full grown but unripe nut, that to get at it he merely had to chop with a heavy knife, removing a few slices of



Scene familiar to every GI in the Southwest Pacific — quonset huts and coconut palms

husk from the tapered end of the nut.

He saw that the military huts of the camps had their roofs covered with coconut fronds, for camouflage; sometimes they were covered with thick layers for insulation from the tropic sun. He noticed that the steps leading to the garrison huts were frequently made of coconut logs, that the logs were a favorite material for a corduroy surface to span deep mires in jungle trails; that an uprooted and fallen coconut palm presented a bench that would accommodate many siters at a time—a fine place to sit and eat one's spam and beans if the camp was new and a mess hut had not yet been constructed.

He discovered that the trunk of the palm had been used for road curbing, for standards for basketball loops on the GI island courts. Palms were strong, durable and resistant to termites. He found many camps in which a particularly straight and tall coconut palm had been topped to serve as a flag pole. Indeed, there were times when the site of the camp's administrative hut was selected on no other basis than the proximity of a suitable coconut palm for a flag pole.

It wasn't long before the marines and GI's began to wonder about the life of the Polynesian natives to whom these islands had been home for so many generations. Healthy

curiosity—scientific, social and economic—prompted many of the boys to investigate their surroundings, to ask questions about the history, background, habits and folklore of the islanders who were their temporary hosts. Every inquiry led inevitably to the coconut palm.

Soon the Polynesian legend of the origin of the tree was told around the camps. There had been a long feud between two great Samoan families. Finally only one couple of each family survived. They decided to end the feud by moving to separate islands, one couple to Savaii, the other to Fiji. The couple at Savaii had a pretty daughter named Sina. The Fiji family had a son with a handsome human head, but with the body of an eel. The eel swam to Savaii and found Sina, but her parents objected to such an inappropriate suitor and took her away to Upolu. The eel followed.

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# ROAD TO *Birdland*

Allan D. Cruickshank, from NAS

By LORINE LETCHER BUTLER

**I**N the waterway that follows the Tamiami Trail across the Everglades of Florida, coots swim in pompous dignity and moccasins sun themselves on flowery banks. Gallinules step lightly across water lily pads and boat-tailed grackles eye the passersby from their perch on a palmetto. The water turkey pursues his way among the blue water hyacinths that clog the channel, and the great blue heron stalks his prey along the water's edge, undisturbed by passing motor traffic.



Everglades kingfisher

Allan D. Cruickshank, from NAS

Only the snowy egret is alarmed by the whoosh of wheels and the wail of horns. They rise from the stream with a flutter of white wings—to settle down again a few feet away. Herons, ibises, rails, and kingfishers. Here, truly, is Birdland—birds in the air, in the water, everywhere. Along the Tamiami Trail, they constitute one of Florida's most famous tourist attractions.

It was here the birds of the Everglades congregated when drainage projects deprived them of their lush homes in the swampland. As mud dried and fires devastated dying vegetation, the birds sought the drainage canals. These, too, would disappear except in time of rain—but not the channel along the Tamiami Trail. This was dug deep; the excavated material was used to elevate the road bed above water in time of hurricane or tropical downpour. So, when other waterways failed, the birds and reptiles found their way to the Ta-

miami Trail. Here, after a while, they came to disregard the noisy tourist traffic.

Had it not been for this last refuge for the birds and water animals of the Everglades, many interesting species likely would have become extinct, as unrestricted hunting combined with the destruction of their natural habitat was fast depleting the abundant wildlife of this region of Florida. But before the last heron took flight and the last egret wafted its snowy plumes in farewell over a devastated land, the forces of conservation overtook the progress of destruction. In 1934 President Roosevelt signed the bill authorizing the establishment of the Everglades National Park in Florida, thus making possible the protection within its boundaries of the strange and beautiful birds in their background of tropical splendor.

Difficulties, however, have prevented the accomplishment of the national park project—mainly, the purchase of privately owned land within the park area and certain oil rights

## When the colorful birds of the Everglades gather along Florida's famous Tamiami Trail, winter tourists are treated to one of the greatest shows on earth

outstanding—oil having been found near the northern boundary. But approval of the Everglades park by the government has at least barred further development of certain sections of the Everglades and brought federal protection to birds and animals on a million and a half acres.

Water again stands on the "glades," but the Tamiami Trail remains the grandstand where the birds gather to watch the world go by. From their rookeries the ibises come to feed in the sluggish waters and enjoy bird society. And at evening they return in great flocks, circling with flashing white wings in aerial maneuvers, before alighting among the mangrove trees. Larger and larger grow the colonies, and now a rookery of hundreds of these picturesque birds is a real bird city, and an imposing sight.

The ibis is a close relative of the stork—without the stork's responsibility. The bill of the stork, however, is hard and straight, adapted to carrying its traditional bundle, while that of the ibis is curved. In lower Egypt it is called *Abou-mengel*, "Father of the Sickle," because of its sickle-shaped bill. The ibis was a sacred bird among the ancient Egyptians, and it continues its worshipful presence in the Valley of the Nile.

Companion to the ibis on the Tamiami Trail is the snowy egret, the lesser egret of snow-white plumage. The American egret, his larger relative, prefers a greater expanse of water, and is a bit more retiring in nature. Just to be sure he is not confused with "Long White," the larger egret, the snowy egret expresses his individuality with bright yellow feet at the end of long black legs. There is also a touch of yellow on his black bill.

The snowy egret is more vivacious than herons usually are. When seeking its prey, instead of the heron's watchful waiting policy, the egret pursues its fish or frog with great animation—darting about with soft plumes flying. And, of course, if one were to suspect the snowy egret of vanity, the tossing about of trailing feathers shows them off to good advantage.

It was the soft plumage of the American and snowy egrets, the "aigrettes," that were so popular as millinery decorations in the early 1900's—so popular that these birds were hunted almost to extinction. Even

after legal protection was accorded the egrets and other colorful species, there was much poaching. And among the offenders were the Seminoles Indians who took their living from the creatures of the swampland. But, like other dwellers in the Everglades, the Indians were driven from their secluded homes by drainage projects.

As the waterways disappeared and the supply of birds and animals dwindled, the Seminoles were forced out by hunger. They, too, found the Tamiami Trail a refuge. In its waters they fished for zars and grindles. Coons were a source of meat supply. And the Seminoles survived.

The Trail runs from Naples to Miami. And were it not for numerous culverts and bridges along its way, the road would be a dam across the

entire region. Under the bridges flow the waters of Turner River, Lostman's River and other streams that continue their way down to the Bay of Ten Thousand Islands.

In places water hyacinths clog the channel with blue bloom and bright green leaves, and dead fish float in a narrow strip or gather in the miniature bays. They are dead from the lack of oxygen in the congested waters. And overhead the black vultures hover in greedy anticipation.

Wing tips outspread like clutching fingers, and bald red head glowing above rapacious beak, the vulture's appearance bespeaks its calling. Yet as nature's scavenger the unlovely bird performs a valuable service in policing the land and waterways.

Of southern persuasion, too, is the boat-tailed grackle that gathers in great numbers along the Trail. With the bold eye and impudent manner of all grackles, they stare back at inquiring tourists. Jackdaw, it is called in the South—so named by early set-

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Picturesque white ibises, with sickle-shaped bills, congregate along the Trail to feed and enjoy bird society

Allan D. Cruickshank, from NAS





# Ranger Bill in NEW YORK

By A. G. HALL

High school students, aided by two professional actors, produce the forestry "soap operas"

A POPULARITY poll among the younger generation on the sidewalks of New York would place Bill Scott, forest ranger, high among such radio favorites as Superman and the Lone Ranger. For six consecutive weeks, students in 750 New York City schools thrilled to the adventures of Bill, his young niece, June Cameron, and two other teen-agers, Joe McGuire and Sam Freeman.

Joe and Sam, employed as dishwashers at a boys' summer camp, run into difficulty on their first day. Hiking in the forest, they lose their way, and after wandering around throughout the night stumble, exhausted and hungry, into a large forest plantation. This is something new, something they have never seen—row after row of planted trees. Then they discover a small guard station at the edge of the plantation. It is padlocked, and when they try to break in they meet up with Ranger Bill Scott who becomes the focal point, along with his attractive niece, for five weeks of hair-breadth exploits—and for a veritable textbook of forestry instruction.

The radio show is written by Bill Bergoffen of the U. S. Forest Service, who created many of the adventures of "Uncle Sam's Forest Rangers" in the old Farm and Home Hour program, and who also is author of the current radio interview with Smokey Bear. Bergoffen and his colleagues in the Forest Service, working with the New York City Board of Education, developed the Ranger Bill Scott story to fill a need in public schools for dramatizing conservation education.

New York City provided an ideal field for this pioneering effort. The city's Board of Education had already established radio as a classroom tool. Equipped with its own broadcasting station, WNYE, and with receiving sets in the schools, it had an air channel to every classroom. As an added educational feature, the radio series was produced with the help of only two professional players; the rest of the characters, including Sam, Joe and June, were high school students, members of the Board of Education's radio workshop. Technical assistance in the station likewise was



## Dramatic experiment in forestry education brings the forest ranger via radio to the classrooms of New York schools — and the kids love it

provided during the series by radio workshop students.

Actual production of the series was supervised by Van Rensselaer Brokhahne, production manager for Station WNYE, whose intense interest in the project helped pace its success.

To set the stage for the broadcasts, 1,500 teachers were provided with "Bill Scott packets"—a collection of teaching material on forest conservation designed to supplement the teachers' knowledge in this field. At the request of the teachers, more than 6,000 students were given Bill Scott notebooks—looseleaf collections of one-page articles with such titles as: "Forests for the Future"—"Some Plain Facts About New York City Trees"—"What to Do When Lost in the Woods"—"Logging and Production of Lumber"—"Wood, the Material of a Thousand Uses"—"How Our Forests Serve Us"—"Forests and Water"—"Why Leaves Change Their Color." These were designed for follow-up work by the teachers and students; for correlation with courses in drawing, civics, English, mathematics and science.

The prototype of Ranger Bill Scott is Clarence R. Byers, assistant supervisor of the Lolo National Forest in Montana. He, among the thousands of foresters in the country, comes closest to the character drawn by Bergoffen. This revelation of the "true" Bill Scott may come somewhat as a surprise to the hundreds of pupils who have written letters to Bill.

On the air, however, Bill Scott is not identified with the U. S. Forest Service. He is ranger for the Beaver Dam Forest, a publicly-owned timber area which may be anywhere the listener's imagination carries him. To include the whole story of forest conservation, the area expands from episode to episode to cover the many uses of forest land. And Bill Scott does not stop at providing new and exciting adventures for his young city friends; he preaches a quiet gospel of conservation at every turn. The gospel is not "dragged in by the heels." With a finesse worthy of emulation by radio's commercial writers, Scott makes conservation live in a manner to arrest the fingers of dial twisters.

On that day when Scott first meets up with Joe and Sam, he tells them a few stories about forest rangers while they gulp down the hastily prepared meal at the ranger station. He explains the purpose of the plantation and what, with good management, it will eventually provide for the country. When the boys become interested in more ranger stories, Bill refers them—and his thousands of listeners—to the book, "Rangers of the Shield" (published by The American Forestry Association).

Anyone who has tried to teach the elements of log scaling will enjoy Bill's explaining the job to June Cameron while waiting for the boys to appear on the scene of a logging operation. In the woods, and just about the time the forestry lesson may be getting a bit heavy, June provides an opportunity for one of the boys to be a hero when she strays in the way of a falling tree.

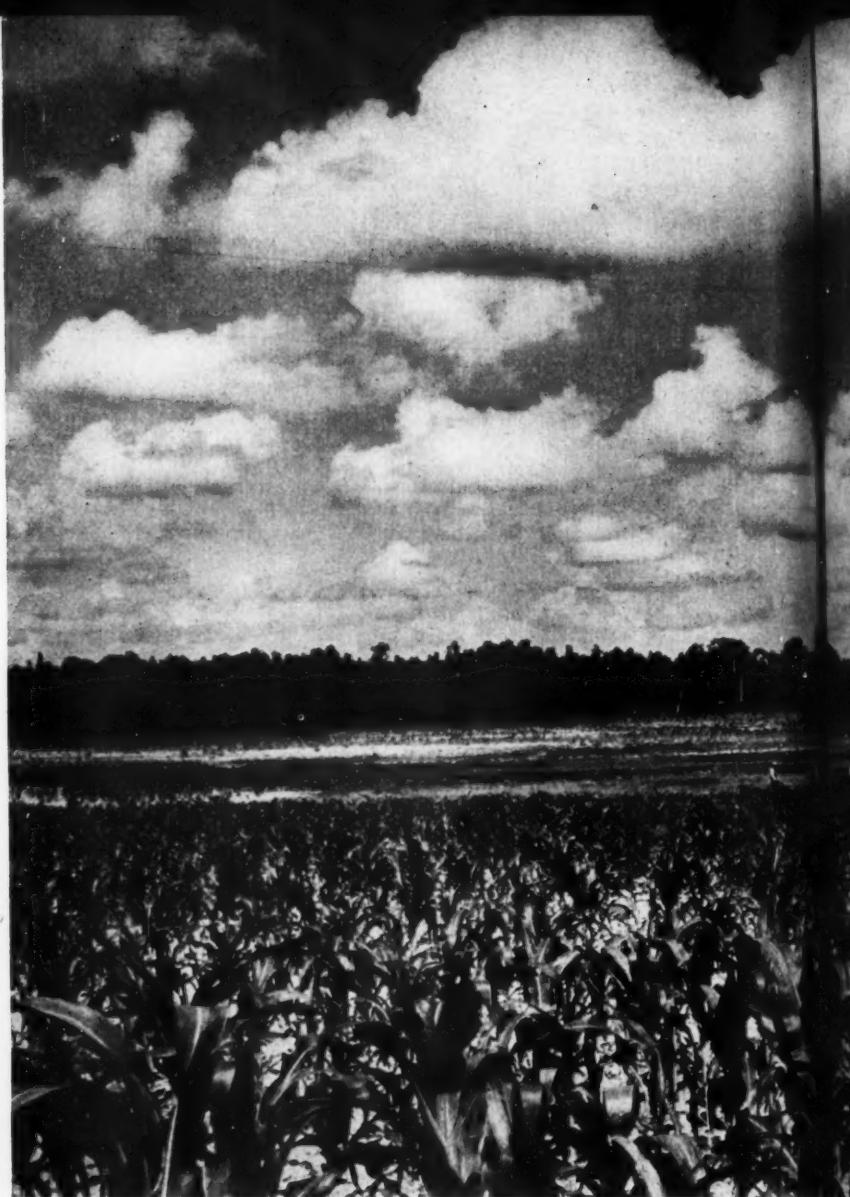
Bill's story of Pat Bond, the first ranger under whom he worked, might wring tears from the most hardened of soap opera fans. But Bill stems the flow before it starts by developing Pat into a good soldier who died, fighting forest fire, to save the woods and future homes of the country.

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H. Armstrong Roberts



## FACING THE FACTS

By JOHN F. PRESTON

THE American Forest Congress recently held in Washington made it clear that one of the major—if not the major—forestry problems facing the nation is how to increase the productivity of farm woodlands through more effective management. Accord-

**THE AUTHOR**, one of the nation's foremost authorities on farm forestry, and a veteran of three decades of service in federal forestry, retired last year as chief of the Forestry Division, Soil Conservation Service.

ing to the Forest Resource Appraisal of The American Forestry Association, 3,300,000 farmers today own 30 percent of the commercial forest land in the country. Yet only one out of ten is applying the principles of good forestry management to his woodlands. This, despite the fact that federal and state forest agencies have been trying to sell forestry to the farmer for 20 years.

This poor return on educational efforts has produced many explanations, none of them entirely satisfac-

tory. To remedy the situation, the Department of Agriculture as well as the writers of the Forest Resource Appraisal report suggest the employment of more farm foresters—that is, more foresters to aid and advise the farmer on the ground. Whether or not this is the solution is debatable. The writer is convinced that it is not. He believes there are deeper reasons for the failure of the farm forestry program—that the problem should be further explored and analyzed in the light of past experience before



II. Armstrong Robe

# IT'S ABOUT FARM FORESTRY

we go all-out for larger appropriations to employ more foresters.

First and foremost, if we approach the problem realistically, the assumption that 3,300,000 farmers own 30 percent of the nation's commercial forest land is erroneous. The fact is that they operate farms which contain about 140 million acres of land covered with woods. Trees could be grown on this land for their wood products, but such management logically might not be best for the farmer. Simply because woodland is

included within the boundary of a farm does not mean that wood is a profitable crop for the farmer.

The farmer's main business is the growing of food crops, and until it can be established that a wood crop will contribute more to farm economy than other crops that might be

grown on forested land—crops with which the farmer is already familiar—foresters are ignoring the facts to assume that the farm woodland area is a part of the nation's permanent timber growing land. On land that is not permanently dedicated to timber growing, forestry practices

**Do we need a new approach, a new philosophy, to solve this important problem? Here is a frank analysis of the situation by one of our top-ranking farm foresters**

may help the farmer get more money for his wood products, but so far as the national forestry problem is concerned, the effort is largely wasted. Such land is not part of our commercial forest land; it is farm land temporarily used for woods.

Success in forestry depends upon permanent dedication of the land to trees as a crop, and until the farmer decides to go into timber growing on this basis he is not likely to be much interested in forestry practices. His chief concern will be in converting timbered land to corn or pasture or similar crops. The thing to remember is that his ownership of woodland is accidental—not by design. Therefore, he is not obligated and frequently is not inclined to grow wood as a crop.

Among the factors that have a bearing on a farmer's decision to dedicate his woodland to forestry are (1) the character of the land; (2) the balance of farm enterprises; (3) the age and physical condition of the farmer; (4) the availability and cost of labor; (5) the volume and character of wood products needed on the farm; and (6) probable returns from a wood crop as compared with alternative crops.

The character of the land is of first importance. It would be foolhardy, for example, to claim that a wood crop could compete with corn where the land is suitable for corn. Generally, the choice the farmer must make is between woods and pasture, and here the balance of farm enterprise, on which economists place great importance, is a major factor. Obviously, if the farmer needs pasture and converting woodland to this use is the cheapest way he can get it, the forester has little ground for argument. The age and physical condition of the farmer and his general attitude can be, and often are, the deciding factors. The same may be said about the availability and cost of local labor. And certainly when a farmer has little need for fence posts or wood fuel, opportunities for his

woodland to show a favorable balance sheet are greatly reduced.

If all these factors are unfavorable, the farmer simply is not interested in forestry, and no amount of talking is likely to change the picture.

From past experience, it seems clear that simply demonstrating silvicultural practices is not sufficient to convince the farmer that he should become a grower of timber. There are too many examples of farmers accepting the help of foresters in selling marketable timber only to follow with a clean cutting of the thrifty trees so carefully preserved for the future stand. Also, a great many farmers have only young timber in their woods, and they need to be shown the advantages *to them* of applying practices that will produce high quality products from this material.

This does not mean, of course, that demonstrating profitable practices in "ready to sell" stands is not an important step in the farm forestry program. It is. But it has been over-emphasized. More important by far is that the farmer, when asked to make adjustments in his farm business, be made to understand what a forestry program involves over a long period of time.

Foresters generally are not equipped to deal with the effects on farm economy of a long-term woodland enterprise; yet they have been attempting to do so. They have not always realized the significance of the word "farm" in farm economy. They have been trying to sell the techniques of forestry, assuming that, if successful, the whole idea of timber growing also would be accepted. In effect, they have skipped the first step in promoting a farm forestry program and depended almost entirely upon the second.

Since the beginning of federal participation in farm forestry with the passage of the Clarke-McNary law in 1924, the conception of the job, with one exception, has been a forestry program sponsored by foresters and carried out by farmers under the direction of foresters. The law was conceived with the idea that farm forestry is something separate from farming. And agricultural leaders and teachers, for the most part, have been satisfied to leave the problem to the foresters. Extension forestry became a part of the program of agricultural colleges and, to this extent, was tied in with a farm educational program—but still the job of selling farm forestry as part of the farm undertaking was recog-

nized as the sole domain of the foresters. This lack of participation of agricultural workers, and failure to recognize the relationship of forestry to the business of farming, have always been weaknesses in the farm forestry effort.

The one exception was in the administration of Norris-Doxey funds. Back in 1939 part of the responsibility for farm forestry was assigned to the Soil Conservation Service, strictly an agricultural agency. Unfortunately, the SCS did not fully appreciate its opportunity and, under pressure, gave up its official connection with the program two years ago. This, in a sense, places the farm forestry program back where it started in 1924.

It should be stated, however, that the Soil Conservation Service in its regular work with farmers, is doing more than any other organization to sell the idea of forestry as an integral part of the farm business. In fact, it is attempting to do the job at the farm planning level—a foundation job largely passed up by the foresters. But the withdrawal of the SCS from participation in the Norris-Doxey program has largely destroyed its power to influence policy or to exercise the leadership of a farm agency—a real loss to the farm forestry effort.

The answer to the problem, in the judgment of the writer, can be simply stated: Instead of trying to sell the farmer a forestry program, we should encourage him to accept a farm enterprise where forestry serves him in exactly the same way as does agronomy, animal husbandry, or horticulture. Income from commercial forestry is too intermittent; forestry integrated with the farm business provides an annual income. On this basis, the farmer can become a grower of wood and will soon acquire, through habit and experience, the techniques of the business.

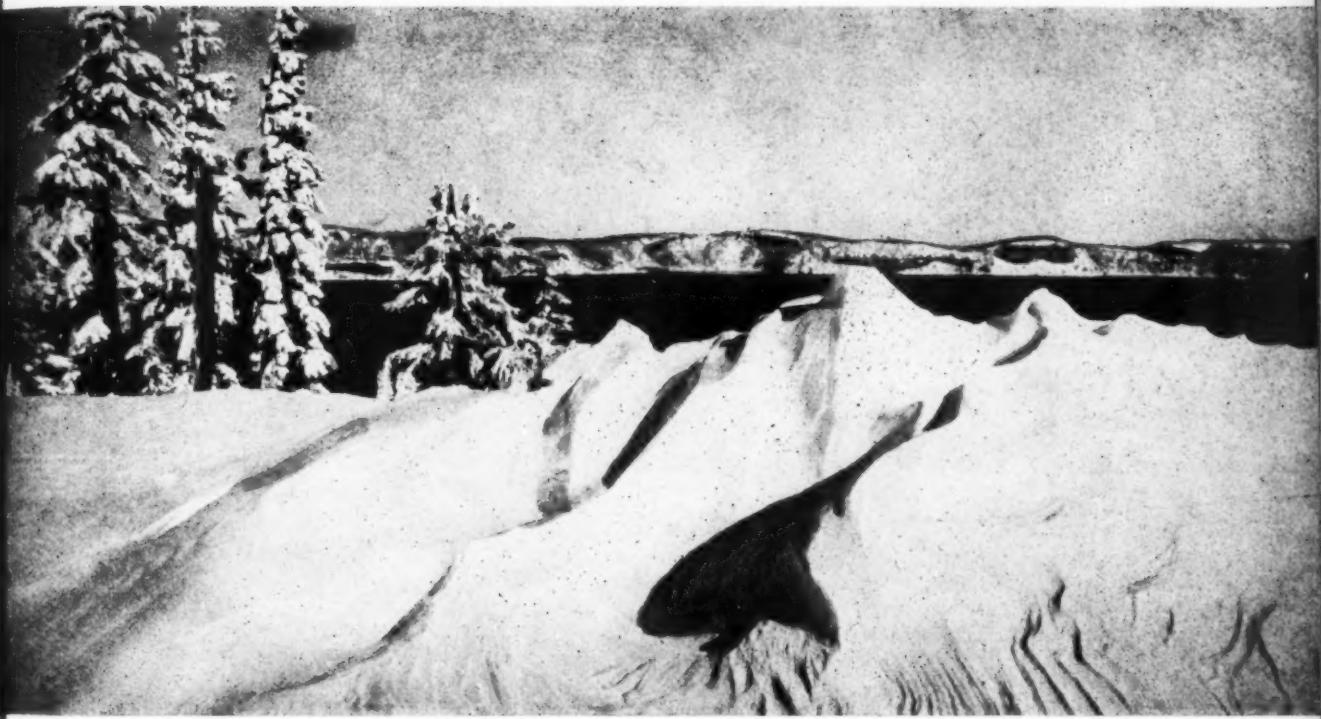
This kind of forestry, of course, is not easy to install. Often local markets will not accept the small quantities of wood products available from annual cuttings. But if foresters will make the market problem part of their job it can be solved in time. Certainly it is a challenge!

Some compromise may be necessary to meet conditions—and this can be dealt with without losing sight of the ideal. For example, integrated farm forestry does not always mean the best silviculture, but practices that provide a steady income from the woodland. In the long run these prac-

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# SEWEL OF THE CASCADES



David H. Canfield

**Winter at Crater Lake provides thrills of beauty, travel and sport for the hardy tourist**

AT no other time of the year is there a more beautiful sight on the crest of the Cascades in southern Oregon, than in winter when Crater Lake is wearing her coat of ermine. This body of intense blue water is then set in a landscape of pure white, and is truly the "Jewel of the Cascades." Those who have seen Crater Lake in summer have witnessed a wonderful sight—but to view it in winter is even more exciting.

A national park since 1902, Crater Lake rests in the very heart of a former mountain — Mt. Mazama — astride the rugged Cascade Range. It has neither inlet nor outlet, is 1,996 feet deep, six miles wide, and covers an area of 20 square miles. It never freezes.

First discovered in 1853 by John Wesley Hillman, a prospector, it was named Deep Blue Lake. Under the excitement of the gold rush and Indian Wars it was soon forgotten, however. Chauncey Nye and a party of prospectors re-discovered it in 1862, and three years later there was a

By GEORGE W. FRY

third discovery when soldiers from Fort Klamath named it Lake Majesty. It was given the name Crater Lake in 1869.

Its geologic background and story are generally well known. All evidences point to a former mighty mountain, one of the chain of volcanoes extending along the Cascade Range, and a sister of such famous mountains as Lassen, Shasta, Jefferson, Hood, Rainier, and others. Whether Mt. Mazama fell in, or the top was blown off, or both, is still a problem of research.

After Labor Day, when most of the park visitors are on their way home, the park staff prepares for winter. Rangers equip the ski patrol cabins with wood and food, unoccupied buildings are closed, others are "winterized."

Snow-mantled tree spires pierce the smooth surface

The coming of snow is the signal for action, often intense, on the part of snowplow crews, which at times work on a 24-hour shift. One winter snow fell for 22 days without a let-up —13 feet of it on the level. During

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David H. Canfield





A plan for the management of this ancient community forest awaits its release from imperial control

# A FOREST GOES BACK TO THE PEOPLE

By A. R. SPILLERS

LAST November, in Tokyo, a delegation of Japanese brought into my office a petition that they be given a forest which had belonged to their ancestors. They represented Kanazawa-mura, a small township in the mountains of Nagano Prefecture, and were led by an English-speaking newspaperman and the village headman.

"Please, we have met so many fine American gentlemen," their spokesman said, "but all tell us to go elsewhere. Finally, they send us here.

We have a story about a village and a forest. We would like to tell it to General MacArthur, but because he is such a great man and the village so small we know this is impossible. Please, maybe you will listen and tell him for us."

I was chief of the Division of Forestry of the General's Natural Resources Section, and much too busy to listen to stories that had no bearing on the immediate problems of providing urgently needed lumber, poles and fuel for the occupation

forces and as much as possible for the homeless Japanese. Yet I was interested.

For one thing, I had been asked to make recommendations concerning the General's plans for far-reaching agrarian reform, including the disposition of the Crown Forests. All afternoon I had listened to an eloquent plea by the chief forester of Japan that only imperial foresters could manage the emperor's hoard of 3,300,000 acres of the finest timberland in the Orient. If these tracts

**Since 1678 the villagers of Kanazawa-mura, Japan's "little people," have been fighting for the return of the forest of their ancestors. Now, under General MacArthur's plan for far-reaching agrarian reform, victory is in sight**

were taken from the emperor and made into state or community forests, he had argued, the people would ruin them. So here, it seemed, was opportunity to learn what the common people of Japan thought. So I listened.

The population of Kanazawa-mura, I was told, have been applying for generations—since 1678—to the government for the return of their forest which was taken from them during the tyrannical rule of Lord Takashima. Once, as a protest, the villagers blocked the Lord's passage along the Koshu Highway. He became so angry that he ordered the head-man crucified.

On Meiji Restoration, the forest was put on the register of the imperial properties under the supervision of the Board of Imperial Forestry. This board issued an order to the village to protect the forest from fire and trespass, to reforest open areas and to cut wood for the imperial household. For these many duties, seriously sacrificing the private interest, the people yearly receive a note of thanks and about one-tenth cent a person. Since the Restoration, on at least three occasions, the village has unsuccessfully applied for free disposition of the forest.

Now, as a part of the social reformation, and particularly the reformation of agrarian landownership—that is, the disposition of certain amounts of land by the big landowners to tenants and minor peasant proprietors—the people of the village once again were seeking free disposition of the Crown Forest of Kanazawa-mura, which, I was told, covers two-thirds of the village area.

Mr. Gerry, correspondent of the New York *Herald-Tribune*, their spokesman concluded, suggested in his dispatch dated October 13, that, in connection with the disposition of the land of big owners, the land and forest of 3,314,242 acres owned by the imperial household may also be disposed of. The Supreme Command of the Allied Powers issued a directive on November 20 freezing the imperial assets. "By this directive," he contended, "imperial household as well as the Japanese government cannot do anything with the imperial properties."

Remembering the chief forester's

warning, I asked what proposals they had for the use of the forest if it were returned. The head-man produced maps, photographs, records and a comprehensive management plan for the intensive and perpetual use of the forest. Furthermore, they begged me to visit them and check these plans on the ground. For three days I talked with the little people in Kanazawa-mura, inspected their small co-operatively-owned industries, tiny farms and woodlands and with the entire village assembly walked through the forest which keeps them in economic bondage as long as it is held by the crown.

Almost all of the 1,500 acres of the forest would be used to grow trees, they pointed out. However, an occasional fairly level spot might be cleared and planted to grain. Only two acres would sustain a Japanese family. The steep slope, I was told, has 732 red pines ready for harvest. They were 47 years old. Seedlings grown by the villagers would be available for replanting. A cable-way would be used to get the logs down the mountainside. Then no longer would the people have to pull them down the dangerous ice slides.

"What would the village do in case of a forest fire?" I asked.

"We have already built a fire-break

three meters wide," was the immediate answer. "Should fire break out, every able-bodied person would rush there, break off green boughs and whip out the fire."

"Even if the forest remained the property of the crown?" I persisted.

"Yes. We would be disgraced and apologize to the emperor if fire should harm the forest."

Then, as a final word, "If the village once again owns the forest, families will live in it and protect and cherish it. As long as it remains a crown property, our sons cannot earn a living in the village, but must seek work elsewhere, and our daughters are sold in the big cities."

I was convinced that this was both a true expression of the people and a sound, carefully-conceived program. I recommended, therefore, its consideration as a possible indication of what disposition should be made of the Crown Forests. Action has been delayed, however, pending the adoption of Japan's new constitution which in Article LXXXIV states, "All property of the imperial household other than the hereditary estates, shall belong to the state." The people of Kanazawa-mura are hoping that the Supreme Commander for the Allied Powers will restore to them the forest of their ancestors. And on the day the forest is returned the villagers plan a great celebration. They will build a monument on the spot where their revered head-man was crucified, but my guess is that this idol will share some of the spotlight with General MacArthur.



Yajima Photo

A villager contemplates the forest of his ancestors, which as a Crown Forest, holds him in economic bondage. He wants a change

# FORESTS OF SOUTH DAKOTA

By J. A. DONERY

Overshadowed by the Bad Lands and gold mines, the forests of this Great Plains state nevertheless play an important role in its industrial economy

SOUTH DAKOTA is better known for its Bad Lands and gold mines than for its timber. However, even though it is generally included in the "treeless" states of the Union, its forests play no small part in the industrial economy of the state and region. Located between the 96th and 104th meridians, the state is a part of the Great Plains and has an average annual precipitation of about 20 inches, with extremes ranging from

12 or 14 inches to 24 or 26 inches.

As might be expected, the timber is found largely along the various streams and on areas at the higher elevations. Species are chiefly cottonwood, ash, elm, oak and maple along the Missouri River and its tributaries, with western yellow pine, spruce and cedar in the western part. Most important timber producing area is the Black Hills of the southwest, where elevations range from

about 3,000 to over 7,000 feet. Harney Peak, the highest point east of the Rocky Mountains, is 7,242 feet.

Before the coming of Europeans to live in North America, the Indians who roamed the plains and hills were beneficiaries of the forests. From them they obtained poles for their lodges or tepees; they killed for meat deer and other game animals then abundant in the territory; they obtained clothing as well from the fur bearers, and took fish from the streams. All of which indicates the importance of the forests to the uncivilized man.

With the arrival of white men in 1804, the establishment of forts in 1817, and the spread of settlements in later years, these forests played an important part in furnishing protection and shelter to the soldiers, trappers, fur traders and settlers who flocked into the territory. In 1874, the discovery of gold in the Black Hills started a boom that promoted the development of sawmilling and the lumber industry in the state. The log cabins of the early prospectors were soon followed by frame shanties, which then gave way to the more elaborate houses of the solid citizenry that developed as one result of the mining activities. And these mining activities have continued to be of great economic importance—and to use wood.

While gold is the most important product of the mines, silver, copper, tin, coal and numerous other minerals and metals are found or produced in the Black Hills region. Their production requires the use of considerable timber or lumber which is obtained from the forests of the Black Hills. The Homestake mine at Lead, largest gold mine in the country, and probably in the world, employs over 2,000 men and uses large quantities of forest products, which are obtained from lands owned by the Homestake Mining Company and from the national forests.

Agriculture, including the raising



U. S. Forest Service

Virgin pine on the Harney National Forest. Sixty-four percent of forest land is controlled by federal and state governments

of livestock, is the state's most important industry. Of the 48,983,000 acres in the state, the total area in farms has increased from approximately 19,000,000 acres in 1900 to 39,474,000 in 1940, according to U. S. Bureau of Census figures. The maintenance of farm buildings and fences requires the use of large quantities of lumber, fence posts and poles. And while large volumes of lumber and other forest products are imported for use within the state, native timber is of considerable importance in meeting this demand.

The original forest area of the state did not greatly exceed the approximately two million acres classed as forest land at the present time. The timbered acreage cleared for agricultural and industrial purposes has been largely offset by the acreage planted to coniferous and hardwood species.

The coniferous forests of the state are largely confined to the Black Hills region, and it is from these pine forests that the greater part of the lumber has been produced. The total volume of timber on the original forested area probably exceeded the present volume of approximately four billion board feet of sawtimber and 13 million cords of material of less than sawtimber size, as a large volume of timber was destroyed by the Black Hills beetle in the 1890's and in the early part of the present century. Forest fires have also caused heavy losses of timber through the years, while logging operations have resulted in further depletion of the original stand of sawtimber. Nevertheless, at the present time a fair overall balance between the cut and growth of sawtimber is being maintained. The fact that softwoods are being cut at a rate greatly in excess of the growth of these species emphasizes the desirability of increased utilization of hardwoods.

Of the approximately two million acres of forest land (approximately four percent of the total land area in the state), 64 percent is owned or controlled by the federal and state governments. The remaining 36 percent is privately owned, with only four percent of the total acreage of forest land being in industrial ownership. The lands under federal and state control can be expected to be continued under a system of sustained-yield management. The lands of the principal industrial owner, the Homestake Mining Company, are at present being managed on a basis comparable with that in effect on the national forests. The farm woodlots, as a rule, have not contributed great-



U. S. Forest Service

Typical timbered slope of the Black Hills. The bulk of the lumber produced in the state comes from these pine forests



U. S. Forest Service

Local sawmills produce an important share of lumber and other forest products demanded by agricultural and mining industries

ly to the production of sawed products but have been the source from which large numbers of fence posts and large quantities of fuelwood have been obtained. Thus these woodlots have played an important part in supplying greatly needed forest products for use on the farms of the state. The importance of farm woodlots is recognized by their owners and while such areas are usually pastured, the forest cover is seldom entirely removed, with the result that the woodlot continues to provide the material required for fences and corrals and for fuel.

The greater part of the field work connected with the determination of the acreage and volume of timber, timber types, and condition classes was performed by members of the U. S. Forest Service, and the data resulting from their work were made available to The American Forestry Association for use in connection with the Forest Resource Appraisal. Two timber types were designated—"softwoods" and "hardwoods," while condition classes of forest land were shown as "sawtimber areas," "pole timber areas," "seedling and sapling areas" (at least 40 percent stocked), and "poorly stocked seedling and sapling areas."

Only the sawtimber areas support a stand of more than 1,000 board feet of sawtimber to the acre, the average being slightly more than 4,000 board feet. The average volume of cordwood material on the sawtimber areas is 6.3 cords and on the pole timber areas 9.2 cords to the acre. The cutting of sawtimber and smaller products will be confined largely to these areas, which comprise 70 percent of the commercial timber areas, while the seedling and sapling areas will provide growing stock for future stands of sawtimber.

Of the 1,765,000 acres of commercial forest land, 1,142,000 acres, or 65 percent, is in public ownership, while 544,000 acres, or 31 percent, are farm woodlots, leaving 79,000 acres, or four percent, in industrial ownership. From this it is apparent that the greater part of the lumber produced must be obtained from lands in public ownership—from the national forests. It is true that only very small amounts of sawed products have been obtained from the farm woodlots.

The volume of sawtimber on the commercial forest lands has been estimated as 2,955,000,000 board feet of western yellow pine, 7,000,000 board feet of western white spruce and 624,000,000 board feet of mixed hardwoods, largely cottonwood, ma-

ple, oak and ash; a total of 3,586,000,000 board feet. Of this, 1,249,000,000 board feet of western yellow pine on 367,000 acres, and 120,000,000 board feet of hardwoods on 25,000 acres, have been classed as virgin or old-growth timber.

While the volume of sawed products increased during the war years (1940 to 1945), the increase was not

## 1947 WILDERNESS EXPEDITIONS

**Ten expeditions, ranging from 8 to 13 days, are now being organized for The American Forestry Association's Trail Riders of the Wilderness.**

**Two parties will explore the Flathead - Sun River Wilderness, Montana, in July; two are scheduled for the Sawtooth Wilderness, Idaho, in late July and early August; four are planned for Colorado—two in the Flat Tops Wilderness, two in the Maroon Bells-Snowmass Wilderness.**

**A party will be organized for the Inyo-Kern Wilderness, California, in August; another will explore an area still to be determined.**

**Watch for further announcements.**

growth sawtimber areas should increase in volume sufficiently to provide approximately the volume of sawed products being produced at the present time."

The estimated current annual growth on the commercial forest lands of the entire state approximates 56 million board feet of sawtimber of all species, and slightly more than 200 thousand cords of material in small trees. Of this, 32 million board feet and 144 thousand cords are softwoods, largely western yellow pine, the remainder being hardwoods of various species. Potential annual growth under a combined system of intensive and extensive forest management on 1,147,000 acres of commercial forest land in the Black Hills region, as estimated by members of the U. S. Forest Service, is approximately 76 million board feet of softwood sawtimber. This indicates that eventually the present annual output of 42 million board feet of sawn products can be increased by about 70 percent, with benefit to the forest lands notwithstanding the relatively slow rate of growth which results from inadequate precipitation and the relatively infertile condition of the soil over extensive areas of the Black Hills. However, even with the potential increase in growth under intensive forest management practices, the continued importation of lumber and other sawed products presumably will be necessary so long as demands for the entire state continue to be about three times the present total annual production.

The writer has been familiar with conditions in South Dakota for more than 25 years. During this period forests have been an important asset to the state, contributing greatly to its prosperity by furnishing employment in the woods, sawmills and wood-working plants as well as by furnishing timber products for use in the cities, on farms and in the mines. Probably nowhere is more clearly shown the dependence upon forests of agriculture and industry.

(EDITOR'S NOTE: *This article is based on the findings of the Forest Resource Appraisal of The American Forestry Association. South Carolina will be presented in the March issue Findings in Arkansas, California, Colorado, Delaware, Illinois, Indiana, Iowa, Louisiana, Maryland, Massachusetts, Michigan, Nevada, New Jersey, North Carolina, Ohio, Oregon, Rhode Island, Texas, Vermont, Virginia and Wyoming have already been published. This series of state stories will be published in book form later in the year.*)



# Revolutionary OAK

By REGINA ARMSTRONG

**T**HIS is the story of a stubborn Huguenot, some dissenting horses and a tree—mainly about a black oak that reaches its branches over the roof of a building it has protected for many years. It shaded the building's wagon-shed entrance when it was erected for a cider mill, and it still performs those kindly offices since time and change have converted it into a dwelling house.

But the black oak and its spreading arms excite no comment from the passerby on Quaker Ridge Road, in New Rochelle, New York. This despite the fact that it shared in an episode that was both stirring and dramatic and which just missed being tragic by the grace of God and several of His creatures—the resident horses that reared in defense and whinnied at the right time.

Israel Seacord, a French Huguenot, built his house and the cider mill in 1732. The Seacord family came to New Rochelle with the Leisler contingent in 1688 and acquired an allotment of land along North Avenue and a lane that is now known as Quaker Ridge Road.

When the British soldiers and their underlings made their forays during the American Revolution, Israel Seacord had an extensive orchard beyond his house, an array of farm

outbuildings and, it was told around, a goodly amount of gold and silver coin, well hidden. This, as might be expected, was an attractive lure to the marauding bands of soldiers and their hangers-on.

The British chose the noon hour for their foray when the family, its men and their helpers were at dinner in the main house.

That is, all but Israel, who was in the wagon-shed part of the cider mill caring for his horses. Sweeping in from the lane, they demanded his money, which he staunchly refused to surrender—or to reveal where it was hidden. In their angered frustration, they tied him to the oak and beat him into insensibility. They then attempted to lead away his horses, but the animals refused to trample on the prostrate body of their master and reared and whinnied in a frenzy of alarm and fright. This aroused the quiet neighborhood until the tumult was heard and seen from the main house 200 feet away.

The Seacord men and helpers came on the run with pitchforks and other conclusive weapons and put the marauders to rout.



Katherine H. Mawhinney

**The historic oak**

# OLD CHESTNUT PLANTATION

By JESSE D. DILLER

FIFTY years ago, an employee in the Government Printing Office in Washington, D. C., the late J. C. Glenn, reached the point in life when he had to plan to provide subsistence for his old age. At that time the government had no retirement system. He conceived the idea of establishing a plantation of chestnuts as a profitable enterprise. There is no evidence that he consulted the Department of Agriculture concerning his new venture. Entirely inexperienced in the growing of chestnuts, he made two serious errors at the very outset: For a nominal sum he purchased a 12-acre field of abandoned agricultural land, badly eroded and of low fertility; and for planting stock he used ungrafted Japanese chestnut seedlings, which produced low-quality nuts.

The history and information relative to the establishment and early care of the plantation were secured from 81-year-old Michael Carroll, a resident of the community, who has always lived within a quarter mile of the plantation, and was hired in 1897 to prepare the ground and do the planting.

Had Mr. Glenn planted European chestnut, as he believed they were at the time, the trees would have been destroyed by the blight which swept this region about 1925. But since the Japanese chestnut, as well as other Asiatic chestnut species, possesses a natural resistance to this disease, some of the trees are still there, although after 50 years, the plantation is in poor shape. Mike did a good job planting the trees; but the soil was poor, and some of it was underlain with hardpan.

During the winters of 1943-44 and 1944-45, the Division of Forest Pathology of the U. S. Bureau of Plant Industry, Soils, and Agricultural Engineering made a study of Mr. Glenn's chestnut planting near Fairfax, Virginia, to determine the more general causes of failure within the plantation and

## The story of a plantation of Japanese chestnut — just outside the Nation's Capital—that failed. A lesson to other planters on what and what not to do.

the survival and size of the trees; to determine the ability of Japanese chestnut to establish itself by natural regeneration as well as by coppice growth; and to discover some of the properties of Japanese chestnut wood.

This plantation afforded an opportunity for scientific study in soil relations and in the development of the Japanese chestnut as a possible substitute for the American chestnut.

When the trees were planted, the field was weedy, as several years had elapsed since it had been a cultivated

cornfield. Holes two by two by two feet, fifteen feet apart on the square, were dug several weeks before planting. (Mr. Carroll points out that in several places about the field water stood in the holes, following rains, for weeks at a time, and that generally in these areas the trees died.) The seedlings averaged but one foot in height, but they had large root systems. The planting was performed during a two-week period, immediately following Thanksgiving, in 1897.

For the first two or three years the trees were cultivated. Some bore an occasional bur in the third year, and in the fifth year Mr. Glenn harvested two bags of nuts, which he attempted unsuccessfully to market. Although attractive in size, color and general appearance, the nuts lacked the superb sweetness of the American; they

were not even equal to the European in this respect. Being seedlings they varied greatly in size, ranging from very small (three-fourths of an inch across, 50 nuts to a quart) to extraordinarily large (one and three-fourths inches across, 21 nuts to a quart). The nuts from some of the trees were definitely objectionable, being woody and having tightly adhering, bitter pellicles, which were impregnated with tannin. The texture was coarse.

In 1904 the 12-acre tract was sold to members of the Collier family, also residents of the community and, in September, 1943, it was resold to Charles D. Hamel by whom it is still owned.

At various times the plantation was used for pasturing livestock, and hogs were turned in to forage on the weeviled nut crop. In 1925, half the trees were removed by cutting out alternate rows in an attempt at rejuvenating the trees and improving grazing conditions. Sporadically, the plantation was cleared in spots of volunteer forest growth, but this was never systematic, and most of the grass was crowded out.



Wood of Japanese chestnut (left) is similar to American chestnut (right)

Occasionally fires swept through the planting, but, since 1943, there have been no fires and the tract has not been grazed.

Geographically the plantation is in the Piedmont Plateau Physiographic Province. The land is gently rolling and slopes to the north. The highest elevation is approximately 440 feet above sea level, the lowest about 400 feet. Four soil series, Manor, Eliok, Glenelg and Aldino, were identified by the Division of Soil Survey of the Bureau of Plant Industry, Soils, and Agricultural Engineering, when a soil map was made of the tract in 1943. All four are developed from mica schist. They differ chiefly in thickness of surface soil, degree of erosion, and the presence of underlying hardpan.

Of the original trees planted only one-fourth were alive in 1945, and of these 133 had full crowns and still made a measurable annual diameter growth. The best trees are principally in the Glenelg and Eliok soils, where there is no hardpan. The trees averaged slightly more than 13 inches in diameter at four and a half feet from the ground, and approximately 30 feet in height and in crown spread. The largest tree stood on one edge of the planting, next to an open field. It had a diameter of 24 inches, and was 34 feet tall. Its crown was 44 feet across.

A hardpan horizon occurs at a depth of 20 inches below the surface in the Aldino soils. The Manor soils are also relatively shallow. Very few trees have survived in soils of either type. Some are "stagheaded" and only 15 feet tall and have stems so twisted and crooked that they could be used only for fuel or possibly as a source of tannin. On much of the areas of Aldino and Manor soils, and where the trees have largely failed, the ground cover consists mainly of dwarf sumac, huckleberry, occasional clumps of chinkapin, and 20-foot Virginia pine.

So far as is known, no fertilizers were ever applied to the soil prior to 1944. At that time an experiment was undertaken to determine whether these old trees could be restored to vigor by application of major plant nutrients. A study of this phase of the problem was undertaken in cooperation with the Division of Soils, Fertilizers, and Irrigation of the Bureau of Plant Industry, Soils, and Agricultural Engineering. Shoot-growth readings of the fertilized trees were taken at the end of the 1944 and 1945 seasons. The only treatments showing significant growth responses were the 300-pound appli-



Michael Carroll stands beneath the chestnut trees which he planted in 1897 on abandoned, badly eroded agricultural land

cations of nitrogen an acre. These were significant only at the end of the first year.

Half of the trees had been removed in 1925. The resulting stumps afforded an opportunity to study the ability of Japanese chestnut to send up coppice growth. An inventory taken in 1943-44 showed 91 sprouts; these were found on the deeper soils, where the original trees also had made the best growth. The largest sprouts measured slightly more than four inches in diameter at breast height and 28 feet in height at 20 years of age. On the shallower soils, such coppice growth as was made was weak, and much of it failed entirely.

An interesting detail of the study was the finding of seedlings in a woodland adjoining the chestnut plantation. In an area of eight acres, 150 trees ranging from one to 22 feet were found distributed through the forest. Some of the young trees were as far as 700 feet from the nearest old chestnut tree. Presumably the seeds had been planted by squirrels. Here also, as in the plantation, chestnut growth was best where the soils were best and not too dry or poorly drained. While these trees might have been able to compete successfully in the forest with other growth, due to miscellaneous cutting

for fuelwood each year, the stand was thinned out, giving the chestnuts a better advantage. Present indications are that the young seedlings will grow straight and make good forest trees.

Tests of the comparative durability of fence posts taken from the old Japanese chestnut trees that were removed from the plantation and from nearby American chestnut trees have been underway, but it is too early to obtain any indications of what the final results will be. Tests of the tannin content were made by the Bureau of Agricultural and Industrial Chemistry. On the average, the results showed nearly 13 percent tannin in the wood of the Japanese chestnut and slightly more than 14 percent in the bark. Some dead American chestnut just outside the plantation showed a tannin content in the wood of nearly 10 percent. Preliminary reports of green wood of trees of Japanese chestnut, tested by the Forest Products Laboratory, indicated that it was considerably higher in specific gravity and in strength properties than American chestnut. The greatest advantage of the Japanese chestnut over the American, however, is that it is strongly resistant to blight.

Several important points have been  
(Turn to page 92)

## KNOWING YOUR TREES

### SWAMP CHESTNUT OAK

*Quercus prinus* Linnaeus

By WARREN D. BRUSH

ALTHOUGH the leaves of the oaks show considerable variation, each species has a characteristic leaf form by which it can usually be identified. The leaf of swamp chestnut oak resembles that of chestnut oak but it differs in outline and is toothed rather than scalloped on the margins. The leaves of both these species resemble those of the chestnut, but the latter has sharp, bristle-tipped teeth. The chestnut oaks, belonging to the white oak group, do not have bristle tips on their leaf lobes.

Swamp chestnut oak and chestnut oak are not likely to be found in the same locality. The latter prefers upper slopes and ridges and is most abundant in the Appalachian Mountain region; swamp chestnut oak is usually found in bottomlands and along streams and the borders of swamps in the Atlantic Coastal Plain and part of the Piedmont region from New Jersey to northern Florida, west in the Gulf States to eastern Texas and north in the

Mississippi Valley through central Arkansas and west central Tennessee to southern Indiana and southern Illinois. Swamp chestnut oak occurs largely on moist or wet loamy soils which are inundated for short periods in the fall or winter. It does not form pure stands, but is mixed with other hardwoods including water oak, laurel oak, water hickory, red maple, blackgum and water tupelo.

One of the most important timber trees of the South, swamp chestnut oak grows to a usual height of 60 to 80 feet and a trunk diameter of two to three feet but occasionally reaches a height of 120 feet and a diameter of seven feet. The straight, massive trunk is often clear of branches for 40 or 50 feet, and the large limbs rise at a narrow angle with the trunk to form a round-topped, rather compact crown.

The stout twigs are dark green at first with pale, de-



U. S. Forest Service

One of the important timber trees of the South, Swamp Chestnut Oak grows to a usual height of 60 to 80 feet



G. J. Baetzhold

Large limbs, rising at a narrow angle from the trunk, produce a typical round-topped, rather narrow crown

ciduous hairs. During their first winter they become bright red-brown or light orange-brown and later ashy gray. The oval, pointed buds, about one-fourth of an inch long, have thin, closely and regularly overlapping dark red scales, pale on the margins and covered with fine hairs.

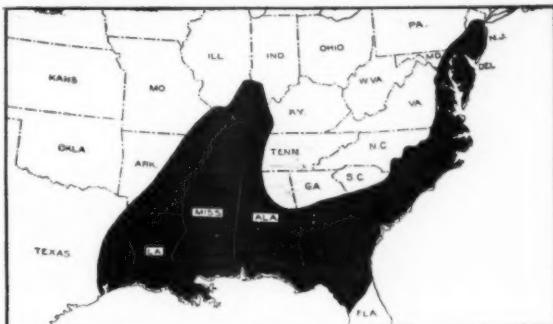
The leaves, from five to eight inches long and three to five inches broad, have bluntly pointed tips and are generally wedge-shaped at the base. The margins have regular rounded teeth which decrease in size as they reach the tip. Dark green and shining above, pale and downy below, they turn a dark rich crimson in the fall. They are borne on short, slender stems one-half to one and a half inches long.

Flowers of both sexes appear on the same tree in the spring when the leaves are only partly grown. The male or pollen-bearing blossoms are in slender, hairy catkins, three to four inches long, and the female or acorn-producing ones are on few-flowered spikes with short, pale reddish, densely haired stems. The bright brown, ovoid-oblong acorns, one to one and a half inches long and three-fourths to one and a fourth inches wide, are borne on short, stout, hairy stalks and are enclosed for about one third their length in a thick bowl-shaped cup which is covered on the outer surface by regular overlapping, somewhat wedge-shaped scales, the lower ones much thickened and the tips of the upper ones often forming a rigid, fringe-like border to the rim of the cup. The acorns are sweet and edible and are eaten by cattle, hence the name "cow oak" by which the tree is sometimes called. Basket oak is another name applied to the tree because of its local use for baskets made of strips split from the straight-grained wood.

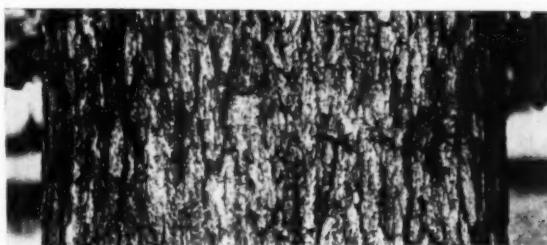
The ashy-gray bark is from one-half to one inch thick on mature trees and separates into thin, closely appressed scales. It is similar to that of white oak but is rougher and with a reddish brown cast, especially on freshly-cut surfaces.

The wood is heavy, hard, stiff and strong and has high shock-resisting ability. A cubic foot of air-dried swamp chestnut oak weighs 47 pounds which is only one pound less than the average of white oak. The quality of the wood is considered second only to that of the best white oak and it is utilized for the same purposes. In the form of lumber it is highly valued for flooring, furniture, motor vehicle parts, car construction, house finish, boxes and crates, and building construction in general. In other forms much of it is used for railroad ties, barrels, mine timbers and fuel wood. Lumber cut figures do not give the quantities of the different species produced but swamp chestnut oak undoubtedly makes up a considerable part of the 2,750,000,000 board feet of oak cut annually. The total stand of commercial oak sawtimber in the United States has been estimated to be 83,700,000,000 board feet of which the white oaks make up 38,000,000,000 board feet and swamp chestnut oak 2,700,000,000 or seven percent of the white oak stand. About one-half of the white oak timber is now in the deep South, especially in Louisiana, Arkansas, Mississippi, and Texas where swamp chestnut oak reaches its best development, and this species will continue to play an important part in furnishing high quality white oak timber.

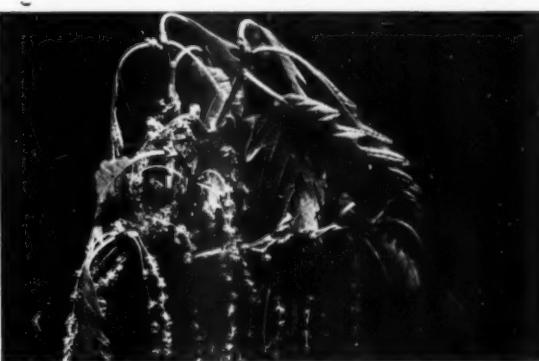
Swamp chestnut oak seems to be quite free from insect and fungus diseases. Its worst enemy is fire to which it is very sensitive while young. Its occurrence in moist locations, however, often serves as a protection. In growth it resembles white oak. It reaches maturity in from 100 to 180 years and some trees have been known to live to be 350 years old.



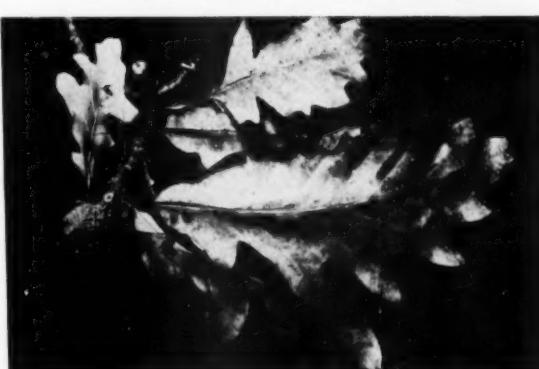
Within its range, Swamp Chestnut Oak occurs in mixed stands in bottomlands, along streams and swamp borders



Maryland Department of Forestry  
The ashy-gray bark on mature trees is similar to that of the white oak, but it is rougher, with a reddish cast



G. J. Baetzhold  
Pollen-bearing blossoms occur in long, slender, hairy catkins. Female flowers are on short reddish spikes



G. J. Baetzhold  
The broad leaves are from five to eight inches long. The acorns are enclosed in thick, bowl-shaped cups

# *managing your* **WOODLANDS**

A page dedicated to the management of woodlands, large and small—practical suggestions in procedure and technique and in the solution of problems on the ground.

What is your problem? American Forests will assist you in finding an answer. Address queries to The Woodlands Editor.

## "ACRES OF DIAMONDS"

**As this Florida farmer discovered, it pays to find out what your woodlands are growing**

JUST a worthless 60 acres of woods! That was Farmer C. L. Robinson's appraisal of his own woodland in Jackson County, Florida. True, it was a mixed stand of hardwoods and small scattered loblolly pine, but past cuttings had been excessively heavy. Since cattle brought a fairly good price, Robinson concluded that the whole area should be cleared of worthless trees and converted to pasture. The soil was in good shape, having been enriched by years of leaf litter accumulations. It would support good grass and other forage plants, which in turn should support good cattle. Robinson wet his pencil and started to compute the cost of clearing, the price of cattle—and possible profits.

The cost column grew as he jotted down item after item necessary to the new enterprise. What could he do to offset this? The trees—perhaps he could find a buyer for at least some of them. Since he was going to cut them anyway, there would be no harm and possibly some profit in trying for a sale. There was a young fellow at Marianna, a "farm for-

ester" the local folks called him, employed by the state in cooperation with the federal Forest Service to aid small forest owners in their timber management problems. He was supposed to know timber values and markets.

So Robinson asked Farm Forester Ernest W. Kreher, Jr., to come out and give his place the "once over." Kreher's appraisal of the woodland as a timber stand checked rather closely with that of the owner, with one major exception. Among the spindly hardwoods and infrequent loblollies, Kreher saw dogwood trees, ranging in size from the smallest seedlings to mature trees.

Easy to overlook as a timber tree, the dogwood rarely attains a height of more than 40 feet or a diameter greater than 8 to 10 inches. But dogwood, he explained, is a specialty wood. Manufacturers of shuttle blocks for the textile industry needed dogwood. No other wood was quite so suitable for this purpose. It would take the constant pounding of travel across the loom, trip after trip, hour after hour, for days, weeks and months without splintering. The finest threads would slip over the smooth surface of the finished dogwood shuttle without catching on minute slivers.

The forester estimated that merchantable dogwood in Robinson's 60-acre tract would produce an average of one-half cord an acre.

When the president of a shuttle block manufacturing company drove all the way from North Carolina to look at the stand, Robinson was convinced that he had something to sell. And when an offer of \$40 a cord was made for dogwood delivered at a railroad siding 10 miles away, cattle walked out of Robinson's dreams.

What really clinched his decision to forget about cattle and manage his stand for continued production of trees, especially dogwood, was a study he and the farm forester made of the growth rate of this species on his area. They discovered that the dogwood reached a diameter of five inches at breast height in only 11 years, an exceptionally good growth for this species. In addition to the trees which could be marketed at once, there were as many or more just under merchantable size—trees that could be harvested in a few years. Further, the ground was well spotted with tiny dogwood seedlings. What would they be like in eight to ten years?

Robinson and the farm forester worked out a management plan for the 60 acres of "worthless woods." The sound merchantable dogwoods would be the first cut, to be harvested now when they were prime. Smaller dogwoods would

(Turn to page 91)



**Farm forester, owner and buyer determine how to get the best bolts from this dogwood tree**

Photo by M. M. Bryan

# "99-H"

**THE POWER GRADER  
THAT HAS EVERYTHING!**

No Motor Grader without All-Wheel Drive and All-Wheel Steer can hope to equal the all-around operating efficiency of an Austin-Western "99" Power Grader. This was true of the "99" and "99-M." It is even more true of the "99-H" with its exclusive All-Wheel Drive and All-Wheel Steer, PLUS High-Lift Blade, Extreme Blade Reach and Completely Reversible Blade.

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All-Wheel Steer greatly simplifies grading in reverse, by providing perfect steering control of both ends of the machine.



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# CONSERVATION IN CONGRESS

By A. G. Hall

THE President has presented Congress with a balanced budget. However, the tenor of the 80th Congress indicates that even a balanced budget may encounter rough going before the appropriation committees. In preparing the budget, the President called upon the executive departments to include proposed expenditures only for those items believed to be absolutely essential and to work well within "target figures" based upon anticipated federal revenues. Consequently the budgeted items in the accompanying table are indicative of what the agencies believe they absolutely must have to operate effectively in the 1947-48 fiscal year.

The overall figure shown for the Forest Service, \$2,550,043 less than in the previous year, includes funds made available to that agency by transfers from other agencies—funds that ultimately become Forest Service responsibility. Proposed reductions affect land acquisition, roads and trails, and white pine blister rust control. These do not mean that the Forest Service objectives in these fields are unchanged. For example, the \$3,000,000 available for acquisition in the current fiscal year will be obligated by June 30 with much of the continuing objective of the Service left untouched. The reduction in the roads and trails function is greater than that indicated by the budget figures; in the current fiscal year the Forest Service had in addition to that shown in the appropriation, about \$11,800,000 for access roads, advanced by the National Housing Administration. It is unlikely that a similar transfer will be made for 1948. The blister rust cuts in the Forest Service budget are part of a \$2,000,000 reduction in this activity, spread throughout the Forest Service, Department of the Interior and the Bureau of Entomology and Plant Quarantine. Heaviest cuts are proposed in the control activities on state and private forest lands, under the latter agency.

A substantial increase in the budget for the National Arboretum is to permit developmental activities, postponed during the war.

Under Reorganization Plan No. 3, the Bureau of Land Management was created in the Department of the Interior. This bureau combines the functions of the General Land Office and the Grazing Service. The accompanying table shows the budget items

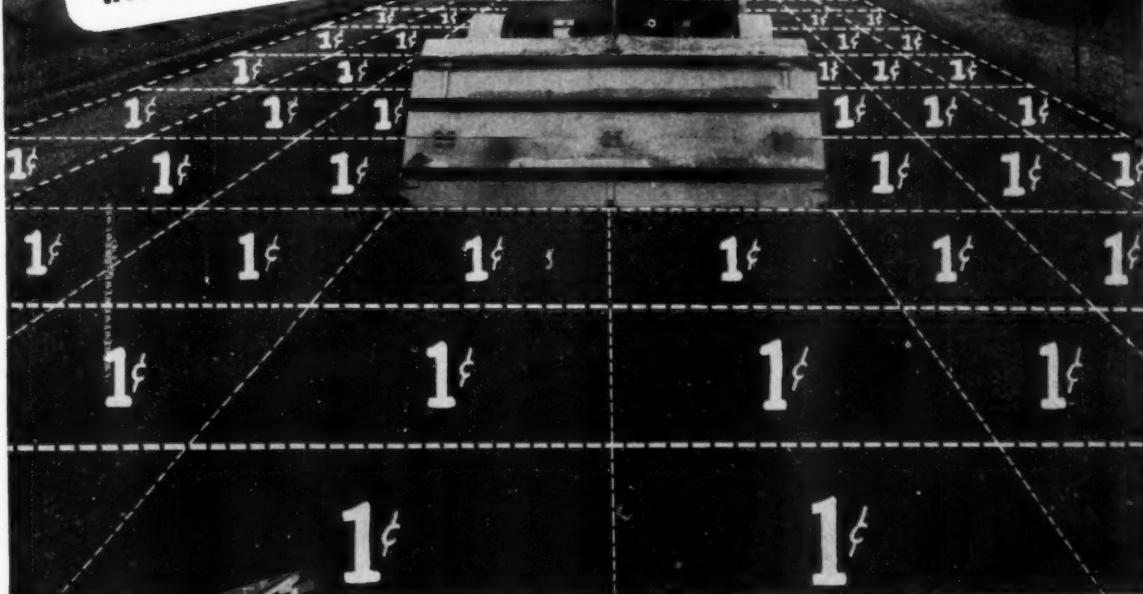
CONSERVATION IN THE 1946-47 BUDGET			
	1948 Budget Estimate	1947 Appropriation	
<b>DEPARTMENT OF AGRICULTURE</b>			
Forest Service: (Total).....	\$68,920,150	\$71,470,193	
General Administration .....	682,000	610,000	
National Forests: (Total).....	25,310,000	24,086,000	
General Management .....	7,082,169	6,934,869	
Maintenance of Structures.....	2,675,276	2,654,276	
Fire Control .....	7,154,877	6,783,877	
Forest Pest Control.....	100,716	100,716	
Timber Sales .....	3,915,166	3,271,616	
Grazing Administration .....	794,428	791,228	
Wildlife Protection .....	162,813	160,783	
Policing .....	541,640	535,780	
Land-Use Management .....	782,296	771,556	
Water-Use Management .....	44,711	44,061	
Improvement Construction .....	89,617	88,767	
Planting and Plantation Care.....	1,965,291	1,948,471	
Fighting Forest Fires.....	100,000	*100,000	
Land Acquisition .....	1,142,000	3,142,000	
Cooperative Work (Total).....	9,809,500	9,071,500	
Fire Suppression .....	9,000,000	8,300,000	
Forestry Cooperation .....	809,500	771,500	
Research (Total) .....	5,302,000	4,847,000	
Forest and Range .....	2,675,000	2,380,000	
Forest Products .....	1,555,000	1,395,000	
Forest Resources Investigations.....	1,072,000	1,072,000	
Roads and Trails.....	23,800,000	26,214,222	
Naval Stores Conservation Program (AAA).....	800,000	800,000	
White Pine Blister Rust Control.....	1,974,650	2,599,471	
<b>Forestry in Other Agricultural Bureaus</b>			
Bureau of Entomology and Plant Quarantine			
Gypsy and Brown-tail Moth Control.....	445,900	440,600	
Dutch Elm Disease Control.....	321,700	316,900	
Forest Insects .....	480,800	444,200	
White Pine Blister Rust Control.....	1,443,350	2,754,111	
Soil Conservation Service (Total).....	44,860,000	44,723,000	
Extension Service			
Private Forestry Cooperation.....	106,343	106,343	
Bureau of Plant Industry			
Forest Diseases Investigations.....	440,000	371,500	
National Arboretum .....	761,000	76,000	
Bureau of Agricultural and Industrial Chemistry			
Naval Stores Investigation.....	152,550	140,000	
<b>DEPARTMENT OF THE INTERIOR</b>			
Bureau of Land Management			
General Administration of range management in timber resources.....	65,068	41,525	
Administration of Grazing Lands.....	980,419	318,846	
Timber Management .....	88,272	85,000	
Fire Protection and Presuppression.....	508,838	464,578	
Squaw Butte Range Experiment Station.....	25,000	.....	
Fire Fighting .....	40,000	40,000	
Range Improvements on Public Lands.....	253,000	257,000	
O and C Lands—Administration and Protection .....	469,300	392,800	
Leasing of Grazing Lands.....	7,500	7,500	
Bureau of Indian Affairs			
Management of Forest and Range.....	1,145,000	704,728	
Forest Fire Suppression.....	37,000	37,000	
Soil and Moisture Conservation Activities.....	3,000,000	1,509,830	
White Pine Blister Rust Control.....	582,000	646,418	
National Park Service.....	14,555,500	26,017,955	
Fish and Wildlife Service.....	12,338,300	11,605,227	
<b>TENNESSEE VALLEY AUTHORITY (Resource Development)</b> .....	7,476,000	6,024,000	

\*Supplemented by a deficiency appropriation estimate of approximately \$4,000,000.

for forestry and related functions in the new bureau. The 79th Congress made drastic reductions in the funds

for activities formerly carried on by the Grazing Service. The present budget recommends increases suffi-

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cient to carry on the grazing administration at about the 1946 level.

The National Park Service total budget item is \$11,462,000 less than its 1947 appropriation. However, the major cut comes in funds for the construction and maintenance of roads, trails, parkways and physical improvements, which were reduced \$13,330,000. This is offset somewhat by increases to permit minimum service to visitors, winter sports, planning for future developments, the acquisition of land and water rights, cooperative studies in river basins, and the administration of recreational areas surrounding reservoirs formed by dams constructed by federal agencies. In addition unobligated balances estimated at \$9,788,494 continue available.

An increase of \$733,073 is budgeted for the Fish and Wildlife Service, making a total of \$12,338,300, the largest amount ever budgeted for this service. The increase is spread generally throughout the activities of the service.

In the TVA, appropriated funds for resource development show a substantial decrease, \$219,000 of which occurs in the budget items for forest resource development and utilization (\$700,000 for 1948, a decrease of \$95,000), recreational resource development (\$254,000, a decrease of \$120,000), and fish and game investigations (\$90,000, a decrease of \$4,000).

Aside from the reductions mentioned above, conservation activities

apparently will continue at the same or increased levels in the coming fiscal year, if the budget proposals are accepted by the Congress. There is more than an even chance, however, that many of the present proposals will suffer reductions before an economy-minded group of legislators.

A number of important bills made their appearance in the first two weeks of the Congress. Chief among them are:

**S. 34—McCarran**—to amend the Taylor Grazing Act of 1934 to permit dissolution of grazing districts or portions thereof upon petition by 60 percent of the users. Similar to S. 1402 by Senator McCarran in the last Congress, it was referred, January 6, to Committee on Public Lands.

**S. 33—McCarran**—to permit holders of 10-year grazing permits on national forests to continue in possession of such permits without reduction of privileges and authorizing the transfer of grazing rights with the sale of base properties of the permittees. Similar to S. 33 which passed the Senate in the 79th Congress, but which died in the House Committee on Agriculture, it was referred to the Committee on Public Lands, January 6.

**S. 31—McCarran**—to amend the Taylor Grazing Act to provide greater participation by district advisory boards in the administration of the act; referred to the Committee on Public Lands, January 6. S. 31 of 79th Congress was a similar bill.

**S. 35—McCarran**—to establish a national resources policy; to create

a natural resources council; to provide for a natural resources inventory; referred to the Committee on Public Lands, January 6. A similar bill (S. 1634) was introduced in the 79th Congress.

**H. R. 502—Rankin**—to provide for the creation of conservation authorities over the river basins of the United States; referred to the Committee on Public Works, January 10.

**H. R. 9—Angell**—to authorize the acquisition of forest lands adjacent to and over which highways, roads, or trails are constructed wholly or partially with federal funds in order to preserve or restore natural beauty. A limitation of one-quarter mile from the boundary of the road right-of-way is placed on such acquisition. Referred to the Committee on Public Works, January 3.

**H. R. 581—Colmer**—to authorize payments to the states, for the benefit of local political subdivisions, based upon the fair value of the national forest lands situated therein. Referred to the Committee on Public Lands, January 7.

**S. 2—McCarran**—to provide for the use of 10 percent of the receipts from national forests for the making of range improvements within the forests. Referred to the Committee on Agriculture and Forestry, January 6.

**S. 151—Pepper**—to give federal aid to the states in the acquisition and development of systems of state parks. Referred to the Committee on Public Lands, January 10.

## New Officers Elected by The American Forestry Association

MEMBERS of The American Forestry Association, by referendum vote, re-elected for one year William Starke Rosecrans of Los Angeles, California, for a seventh term as President, and I. J. Roberts of Washington, D. C., for a fourth term as Treasurer.

Karl T. Frederick, chairman of the Board, New York State Conservation Council, was re-elected as Director for a term of three years. Three new Directors were elected: Don P. Johnston, vice-president, the North Carolina Forestry Association, for three years; Lloyd E. Partain of Pennsylvania, manager of the Commercial Research Division, the Curtis Publishing Company, for two years, and Warren T. White, Virginia, director of Public Relations, Seaboard Air Line Railroad Company, for a one-year term.

The 21 honorary Vice-Presidents

elected to serve during 1947 are: Dr. Isaiah Bowman, Maryland, president, Johns Hopkins University; C. Arthur Bruce, Tennessee, president, National Lumber Manufacturers Association; Thomas P. Cooper, Kentucky, president, Association of Land-Grant Colleges; Chester C. Davis, Missouri, president, Friends of the Land; Dr. Ira N. Gabrielson, District of Columbia, president, Wildlife Management Institute; P. H. Glatfelter, Pennsylvania, chairman, Forest Industries Council; Amory Houghton, New York, president, National Council Boy Scouts of America; C. P. Kelly, Georgia, president, Forest Farmers Association Cooperative; Dr. E. J. Kraus, Illinois, member, Advisory Council, National Arboretum; Aldo Leopold, Wisconsin, vice-president, Save-the-Redwoods League; George W. Merck, New Jersey, president, Merck Chemical Company; Frank E. Mullen, New York,

vice-president and general manager, National Broadcasting Company, Inc.; John W. Nelson, Jr., Maryland, chairman, Maryland Commission of State Forests and Parks; Harold C. Ostertag, New York, chairman, New York Joint Legislative Committee on Interstate Co-operation; Mrs. Marvin Pierce, New York, chairman, Conservation Committee, the Garden Club of America; Dr. Paul B. Sears, Ohio, president, Ohio Forestry Association; Judge Clifford H. Stone, Colorado, director, Colorado Water Conservation Board; Mrs. Bertram P. Thomas, Washington, chairman, Conservation of Natural Resources Committee, General Federation of Women's Clubs; Corydon Wagner, Washington, president, American Forest Products Industries, Inc.; Tom Wallace, Kentucky, editor, *The Louisville Times*, president, Izaak Walton League of America.

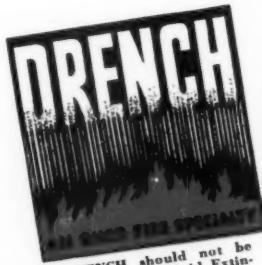


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## Ranger Bill in New York

(From page 65)

from destruction. From the top of the hill where Pat lies buried beneath a crude monument of native stone, the boys are led to marvel at the expanse of forested country stretched out on all sides, and to express amazement at not being able to notice the logging operation, so well selected is the harvest.

The 15-minute shows, while complete in themselves, have a continuity of personnel and scene which holds the listener's interest until the next episode. These are applicable to use by any radio station and any school system in the country. Station WNYE followed each broadcast with a short interview with a state or city official. Conducted by Frank A. Connolly of the eastern region of the Forest Service, these helped localize forestry problems and solutions.

Following the first episode, Connolly interviewed A. S. Hopkins, assistant director of the New York State Division of Lands and Forests, who talked about his state's forests and forestry program. The second episode, on the logging operation, was climaxed by an interview with Floyd Carlson of the extension department, New York State College of Forestry. Carlson carried his listeners on a "magic carpet of wood" into the many places where wood is a highly important commodity of commerce, science and of good living.

Following the third episode in which it is necessary for Bill Scott and the boys to seek shelter in a cave from a flash storm, City Water Commissioner John M. Canella told of the value of forests to the city's water supply. Bill Scott had already explained to the boys how the forests help retard storm flow, serve as reservoirs to feed water slowly into streams and protect soil from erosion.

While in the cave, June, who tags along on almost every exploit to please the distaff side, discovers a lame bear cub and—yes, you've guessed it—this leads later to Bill's development of the wildlife values of the forest. But with the rain pelting like machine gun fire into the mouth of the cave, Bill's first concern is over the town of Rockville. The watershed of this small community near the forest had been denuded by unwise cutting and fires and, because of this, the ranger feared the worst—a flood. Sure enough, they learn by radio that Rockville is under water.

The flash flood brings Bill and the boys to the emergency job of sand-

bagging the local sawmill against the rising water—to keep it producing lumber for the housing program. This gives Bill a chance to explain mill operations, for the boys to be heroes again by discovering a frayed belt. Bill doesn't overlook the opportunity to point out that many logs come from well managed farm woodlands, nor does he neglect to say that not all woodlands are well managed.

Game management is reached in the fourth episode when Joe and Sam help hunt for the lame bear cub which has broken from the confinement pen, but is still too weak to "go it alone." While tracking the bear, Joe, Sam and June learn a lot of woods lore, and so do the thousands of other Joes, Sams and Junes in the schools tuned to the program. They come upon a pasture in which Daisy, Ranger Bill's old horse, is pensioned. Yes, Bill gives them a session on the importance of forests for cattle and other stock range, on the need for fencing, movement of herds and other management activities. The bear is shot at, but not shot, by a farmer—a fine cooperator, Bill calls him—whose beehive it had raided.

This episode was followed by Frank Connolly's interviewing Al Bromley of the New York State Conservation Commission, who explained game management activities.

The sixth and final episode brings in the inevitable forest fire with explanations of fire weather, causes, prevention activities, and actual fire fighting. Of course, Ranger Bill calls out the road crew to aid in the fight, and enlists the aid of the local volunteer forest fire fighters organization. The children back in the classroom learn how the fire is located as Joe and Sam explain to each other what the fire dispatcher is doing when he draws lines from the lookout tower sites on the map in response to radioed directions from the lookouts. And they learn about how a fire line is dug from Bill's instructions to the grunting, coughing boys who help him battle the smoke and flames. And, as you have already guessed, June tags along to "help." Yes, it is she who gets cut off from Bill and the boys when the fire jumps the trail. And it is June who rides in when the drama has reached its height—rides in on Daisy whom she has saved from the fire.

The final curtain was drawn on the broadcasts by an award—a framed photograph of Ranger Bill Scott on

his horse—presented by James K. Vessey, assistant regional forester, to James Macandrew, coordinator of broadcasting for the New York City Board of Education, who accepted it on behalf of Superintendent of Schools John E. Wade.

The Bill Scott program has proved to the New York City Board of Education the effectiveness of radio as a conservation education medium. Teachers and students are enthusiastic about it. The Board of Education likewise hails it as a welcome addition to the pedagogical field. In the words of Elias Lieberman, associate superintendent for the Division of Junior High Schools, "This kind of radio program may become national in scope and influence on its drawing power, educational value and general merit."

Under controlled conditions the radio program can be directed to a given age level or subject matter. Unlike the home radio reception, the dial is controlled by the educator. The children in school welcome the change from the more traditional types of education; the drama, action, change of voices and sound effects break the monotony of straight lectures and add life to what might have been written in textbooks. The same effects can be attained by use of the recordings on a play-back machine or public address system.

In the New York experiment, the shows were broadcast over two stations, WNYE, the Board of Education's FM station, and over the municipal station, WNYC, on a conventional transmitter. Although it was essentially a school children's program, the shows proved to have general listener appeal. When one of the WNYC broadcasts was set aside to make room for a special United Nations speaker, the station gave Ranger Bill radio time the next day.

Ranger Bill Scott has talked his way into the hearts of New York school children and into the curriculum planning of the city's school teachers. His message and the adventures of Joe McGuire and Sam Freeman are recorded for the use of educators elsewhere. The scripts likewise are available for organizations who wish to produce their own shows. Now that the initial work has been done, it should be a relatively easy matter for school boards and conservation departments everywhere to add Bill Scott's name to their list of instructors.

## New U. S. Fire Chief

DAVID P. Godwin, mechanization expert who developed the technique of parachuting men to forest fires, and who during the war was Forest Service representative in the joint Army-Forest Service fire control program, in the aircraft warning service, and in plans for meeting the Japanese incendiary balloon hazard, has been named head of the Forest Service Division of Fire Control. He succeeds Perry A. Thompson, recently appointed regional forester at San Francisco.



**David P. Godwin**

Assistant chief of the division since 1935, Mr. Godwin has concentrated his efforts during the past several years on the development of new fire fighting equipment, now tending strongly toward mechanization. He has been particularly active in developing peacetime cooperation with military forces in testing helicopters for fire fighting, heavy bombers and personnel for dropping water or chemical bombs on forest fires, and military aircraft and crews in fire suppression.

Mr. Godwin began his Forest Service career in California, serving as forest guard, ranger and supervisor of the Mendicino National Forest before assuming charge, in 1915, of fire control planning for all California national forests. He left this assignment to serve in the first World War.

He is chairman of the forest committee of the National Fire Protection Association, and also of a joint committee now being formed between the American Society of Mechanical Engineers and the Society of American Foresters.

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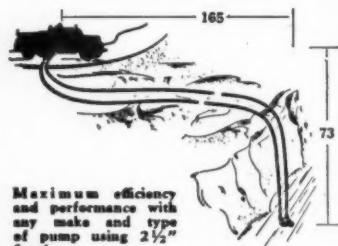
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## Trees and Jobs for 100 Years

(From page 59)

and any of its roads which give access to the national forest may be opened by the government to public use.

Simpson is committed to maintain within the cooperating area manufacturing plants—sufficient to process at least 80 percent of all forest products removed from the government and company lands.

Simpson must also utilize all the timber cut to the degree of "economic feasibility" determined, in the last analysis, by the Secretary of Agriculture. As a matter of fact, the company's program of integrated manufacture and by-products will recover 20 or 25 percent more raw material

and employ 20 or 25 percent more man hours of labor on each tree than today's average operation on Puget Sound.

We will search far, and the world over, to find a more carefully drawn or comprehensive plan of forest conservation; or one more specifically geared to the public welfare. To assure its good faith in forestry and community service, the company has surrendered control over its own property for 100 years.

Now, the key question: Do public benefits justify the degree of monopoly involved in the Shelton agreement?

Uncle Sam owns 231 billion feet of timber in western Oregon and Washington. Less than two percent of this vast reserve has been committed to the Shelton project. Only time and experience can determine how much of the federal stumpage should be withdrawn from a free competitive market and used in this fashion to establish centers of stable forest management. Certainly not all of it; probably not a major part of it.

But will not the public good be better served if a reasonable part of the public forests is used, at strategic points, to set the pattern of sustained yield for private woodlands and conversion plants?

These units of intensive management with government backing in timber and technical direction, should be well distributed among localities where forest industry and employment are important. They will lead the way in timber growing and utilization practices. The steady markets for wood they create will benefit every forest operator and woodlot owner within reach. Such centers of demonstration cannot fail to aid the progress of American forestry right down the line.

By its own legislation, Congress clearly intended that some areas of federal timber be used in just this way, "to stabilize communities, forest industries, employment, and taxable forest wealth; to assure a continuous and ample supply of forest products." Congress itself has ruled that these public benefits warrant the degree of monopoly involved in local administration. We have here not a scheme for Mason County, Washington; but a national policy. It is part of our overall program for the forest resource.

We must take "sustained yield"

out of the textbooks and make it a going concern in American business. There is no way that our government can do more to bring this about than

by taking a share with its own resources, in specific undertakings where private owners are ready to do their part.

## Jewel of the Cascades

(From page 69)

January of that year 179 inches of snow fell. The average snowfall for the five-year period 1931 to 1936, was 54 feet. In another storm, snow fell at the rate of 37 inches a day.

Sometimes the 16-foot pole by which park rangers measure snowfall and snow depth is covered early and an extension is necessary. The weather station which ordinarily sits on the ground, is elevated on a platform 12 feet high. Some years the first snows occur in September. As the winter progresses, buildings and trees disappear here and there, not to be seen again until June or July. Buildings, water hydrants, roads and trails are marked with long poles so that they can be located in the spring.

Only the south and west entrances are kept open during the winter and all checking is done at Annie Spring, six miles south of the lake. On Sun-

days and holidays many people flock to the rim to ski and enjoy winter sports. But there is a steady flow of tourists from many parts of the country who make the trip just to see the lake and enjoy its winter setting. Visitors from southern climates and other parts of the country where snow is a rare treat are the ones who get the greatest thrill from Crater Lake snows. They simply cannot believe their own eyes.

But it is on a bright moonlight night, or in the early morning hours when everything is so quiet and peaceful that Crater Lake seems like another world. The many small trees take on shapes of ghosts, animals and strange creatures, caused by the weight of the snow.

Here, truly, is a "winter wonderland."



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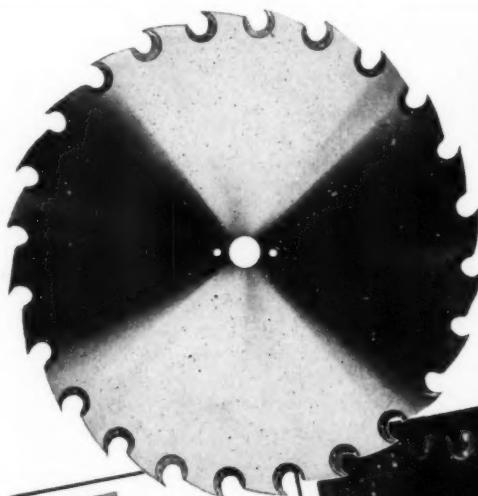
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**THE FRIENDLY EVERGREENS**, by L. L. Kumlien. Published by D. Hill Nursery Company, Dundee, Illinois. 237 pages, illus. Price \$6.00.

This new book replaces the author's "Hill's Book of Evergreens," which was published in 1936 and is now out of print. It is a completely rewritten version and covers the subject of our conifers in a more comprehensive way. As was the first book, *The Friendly Evergreens* is popularly written, non-technical in character, and presents a wealth of information gathered from many sources.

The volume is divided into four parts. Part I covers the genera of evergreens, their horticultural uses, individual characteristics; Part II gives pertinent information on seed collecting, propagation, culture, insects and disease—with chapters on transplanting, root pruning, packing, shipping, etc.; Part III considers the uses of evergreens in the landscape design, for windbreaks, and miscellaneous decorative purposes, and Part IV describes in detail the important and lesser varieties of evergreens.

Included also in the volume are a section listing the botanical names of evergreen species growing in continental United States, a bibliography of the more important books on conifers, and a helpful index.

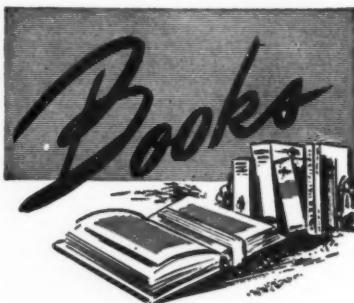
The text is published on an excellent grade of paper, attractively printed and beautifully illustrated with color plates, photographs and drawings.

**THE LOST AMERICANS**, by Frank C. Hibben. Published by Thomas Y. Crowell, New York City. 196 pages, illus. Price \$2.50.

Dr. Hibben, professor of anthropology at the University of New Mexico, has written the first complete and popular account of the existence of ancient man in America thousands of years before the advent of the modern Indian. His scientific discoveries are related in an entertaining and fascinating manner.

**RESEARCH AND REGIONAL WELFARE**, edited by Robert E. Coker. Published by the University of North Carolina Press, Chapel Hill, North Carolina. 229 pages. Price \$3.00.

The papers reproduced in this volume were presented in a series of meetings at Chapel Hill in May 1945. They cover a wide range—the humanities and social sciences, nutrition and public health, industry, agriculture, and fisheries—and emphasize the need for research in all phases of southern life.



**THE 1945 AMERICAN PLANNING AND CIVIC ANNUAL**, edited by Harlean James. Published by the American Planning and Civic Association, Washington, D. C. 226 pages. Price \$3.00, or included with Planning and Civic Comment, issued quarterly, in annual \$5 memberships of the Association or the National Conference on State Parks.

Presented in a series of articles by nationally recognized planners and administrators of federal, state, municipal and private properties is the recent record of civic advance in the fields of planning, parks, housing, neighborhood improvement and conservation of national resources.

Included also are the papers delivered at the Citizens Conference on Planning, held at Dallas, Texas, in April 1946.

**MAMMALS OF NEVADA**, by E. Raymond Hall. Published by the University of California Press, Berkeley, California. 710 pages, illus. Price \$7.50.

A complete manual of Nevada mammals, it provides the student with check lists and keys as well as accounts of all species and subspecies of mammals known to occur in the state. A total of 485 figures and distribution maps help make the book useful to the student as well as the scientist.

**CYCLOPEDIA OF BUILDING TERMS**. Published by the American Lumberman, Chicago 2, Illinois. 67 pages, illus. Price 50 cents.

This manual on the fundamentals of light construction and building materials has been prepared for the guidance of lumber dealers, but it is equally useful to the home owner and maintenance man. It includes identification and definition of structural members of a house, building terms, charts and material quantity tables, check lists for building materials, door, window and casement designs and specifications, blueprint symbols, and legal terms.

The publications listed below must be ordered direct from the addresses as given and not through the Association.

**Alaska Fishery and Fur Seal Industries: 1944**, by Ward T. Bower. Statistical Digest No. 13, Fish and Wildlife Service, U.S.D.A. Supt. of Docs., U. S. Gov. Printing Office, Wash. 25, D. C. Price 20 cents.

**Our American Land—The Story of Its Abuse and Its Conservation**, by Hugh H. Bennett, Chief, Soil Conservation Service. Misc. Pub. No. 596, U. S. Dept. of Agriculture. Supt. of Docs., U. S. Gov. Printing Office, Price 10 cents.

**The Future of Aspen in the Lake States**, by Zigmund A. Zasada and W. A. Kluender, Lake States Forest Experiment Sta., University Farm, St. Paul, Minnesota.

**Soil Conservation During the War**, By George W. Collier, Soil Cons. Serv., U. S. Dept. Agr., Washington 25, D. C.

**Water and Our Forests**, by Bernard Frank and Clifford A. Betts. Misc. Pub. 600, U. S. For. Serv., U. S. Dept. Agr., Washington 25, D. C.

**Maps**. Price list 53, 37th edition. Sup. of Docs., U. S. Gov. Printing Office, Washington, D. C.

**A Program of Desirable Scientific Investigations in Arctic North America**. Bull 1. The Arctic Institute of N. A., 805 Sherbrooke St. West, Montreal, Canada.

**Enjoying Nature**, by the National Recreation Association, 315 Fourth Ave., New York 10, N. Y. Price 65 cents.

**A History of Wisconsin Deer**, by Ernest Swift. Pub. 323, Wisc. Cons. Dept., Madison 2, Wisc.

**Forest Areas, Timber Volumes and Vegetation Types in California**, by A. E. Wieslander and Herbert A. Jensen. For. Surv. Rel. No. 4. Calif. Forest and Range Exp. Sta., Berkeley, Calif.

**15 Million Acres of Timberland—Conservation Federation of Missouri**, 648 East Big Bend Road, Webster Groves 19, Missouri.

**Northeastern Loggers' Handbook**, by Fred C. Simmons. Preliminary Review Edition. Northeastern Forest Exp. Sta., Philadelphia 7, Pa.

**Potomac River Basin Commission, Its Policy and Program; An Appraisal of Land and Water Resources in the Potomac River Basin**, speech by L. Harold Sothoron. Potomac River Basin Commission, 520 Transportation Building, Washington, D. C.

## Managing Your Woodlands

(From page 80)

be reserved for the future, many to be ready for another profitable harvest in a few years. Robinson and a relative who lived on the farm would do the logging and hauling. In this way they could be assured that the remaining trees and the small seedlings would be given the utmost protection, as well as realizing the full value of the \$40 a cord price offered by the shuttle block manufacturer. Then, too, by doing their own cutting they could produce almost twice as many shuttle block bolts by sawing out larger limbs and avoiding knots and crooks as might otherwise be obtained. The manufacturer and farm forester had showed how this could be done.

The rest of the woodlands would provide fuelwood for the farm for a number of years by a systematic reduction of the crooked and undesirable trees, these to be harvested as time from other work on the farm permits. But the best of hardwoods and loblolly pine—the trees which will eventually make pulpwood or sawlogs—were reserved.

After studying his 60 acres and considering the possibilities of its management for wood products rather than clearing it at a cost of \$20 or more an acre, Robinson decided to become a forest farmer rather than a raiser of beef. With very little additional attention, the 60 acres could become an important part of his farm economy.

The story is somewhat reminiscent of the famous lecture, "Acres of Diamonds," by Russell H. Conwell, late president of Temple University. Conwell's advice to fortune seekers was, in effect, to look in their own backyards. Not all woodland owners have their "diamonds" in the form of dogwood trees; some find them in pulpwood, furniture stock, sawlogs, veneer logs, poles, or fence posts. The problem is to recognize the value and to manage the land to make the most of it.

Scientists have not been able to control the Asiatic chestnut blight, nor have they yet discovered an immune American chestnut tree, according to Dr. Ray R. Hirt, of the New York State College of Forestry.

Chestnut trees continue to produce sprouts for many years after the main stem of a tree has been killed by the disease. These sprouts may live long enough to bear nuts but eventually they succumb.

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## **San Gorgonio Hearing Announced**

The U. S. Forest Service has announced that a hearing will be held at San Bernardino, California, February 19, on its proposal to modify the boundaries of the 35,600-acre San Gorgonio Primitive Area in the San Bernardino National Forest, to permit a development for winter recreation.

The primitive area includes the upper slopes of the San Gorgonio Range from the 7,000-foot contour to the peak of "Old Greyback," 11,485 feet. In its present status no permanent structures can be built and no road constructed in the area. To meet demand for the use of the mountain for

skiing and other winter sports, the Service proposes to provide access and to permit development. The proposed skiing area, it is pointed out, is the only acceptable area within 150 miles of Los Angeles.

Opposition to the development has been voiced from groups interested in wilderness preservation, who point out that although less than 20 percent of the primitive area is involved, the affected portion constitutes the best scenic area.

The Forest Service states that the proposal is tentative and will not be confirmed until after the San Bernardino hearing.

## **Old Chestnut Plantation**

(From page 77)

demonstrated by this study. It is futile to plant chestnut in shallow soils, underlain by hardpan, or in badly eroded soils. Neither the cutting out of alternate rows of trees nor applications of fertilizers stimulated satisfactory growth response in the old trees. The finding of volunteer seedlings at considerable distances from the plantation indicates that the seed is readily disseminated by natural agencies, presumably by squirrels; and that Japanese chestnut could be made a valuable tree in native hardwood forests if planted on good soils. Analysis of wood and bark proved that both are rich in tannin, and tests on unseasoned wood indicated it to

be considerably higher in specific gravity and superior in most other properties to American chestnut.

Despite its blight resistance, apparent climatic suitability, high tannin content, and desirable wood qualities, and because of the low-quality nuts it produces, this strain of Japanese chestnut cannot be recommended for wide distribution for farm woodlands and forests. Any landowner who is considering planting Asiatic chestnut extensively will do well to select the planting site carefully, and to choose a strain that produces good nuts and possesses the other desirable forest-tree qualities, before embarking on his enterprise.

## **Road to Birdland**

(From page 63)

tlers because of its resemblance to the jackdaw of Europe. But jackdaw it is not—just another grackle, and "boat-tailed" from the streamlined formation of the tail.

In contrast to the male's glossy black, the female boat-tailed grackle wears two-toned brown plumage. Spineless creatures they are, too, for meekly they endure the negligence of their gallivanting mates. During the spring migration the females travel together and in advance of the males. Unescorted, they make their way to nesting grounds. And as soon as nesting operations are under way the females are again deserted. They are left the entire responsibility of rearing and feeding their ample families, while their gay spouses gather in flocks and fly about in happy, care-free fashion.

It is the spectacular birds, however, the ibises, egrets, purple gallinules and colorful herons, that attract the attention of the traveler on the Tamiami Trail. And if one can look away from the birds and plants and picturesque waterway on the north side of the Trail, he will see spreading away to the south a vast prairie of sawgrass. With the expansiveness of a western plain it stretches into the distance; this Florida plain, however, is dotted with palm islands—groups of palms and tropical plants—islands of graceful growth in a sea of monotonous grass.

Here the stately royal palm with smooth pastel-tinted trunk rises in impressive dignity. In the Everglades this palm grows naturally, and the group that flourishes north of the Ta-

miami Trail is the largest and finest that are to be found anywhere in a natural environment. There are about 2,000 trees in the grove, and at the time when the Everglades were being exploited about 300 were removed. Now the royal palms are protected by governmental authority along with the birds and animals of the region.

A broad road stretching across south Florida, the Tamiami Trail is unique among the world's highways. From centers of luxury and sophisti-

cation it spans a portion of early America.

From the cushioned ease of modern motor travel one looks out upon the same prairie viewed by early explorers. And he sees the birds that thrilled them—and have thrilled all men since. And he sees the red men, the inhabitants of early America.

Indeed, the Tamiami Trail is a road that not only leads through Birdland, but back through the years to the America of another century.

## Farm Forestry

(From page 68)

tices, because they are best for the farmer, represent the best brand of farm forestry. Clearly the primary job in farm forestry is to bring about conditions favorable to integrating the farm and forestry business. When this is accomplished, farm woodlands can be listed as part of the nation's productive forest land.

It is important, in looking realistically at the farm forestry problem, to recognize that its solution requires the help of the non-forestry trained agricultural leaders. This is because we are dealing primarily with a farm problem, not one in forestry. It is easy to illustrate this truth from other farm experiences. The farmer has no need for agronomy in pasture management until he decides that an improved pasture will give him a better living; neither is he interested in the techniques of raising goats until he decides the goat business will prove a good addition to his farm enterprises; likewise, he cannot be expected to be interested in forestry until he decides that a woodland enterprise is worth undertaking on his farm.

Even then, the key to the problem is the type of enterprise he embarks upon. Naturally, the farmer is anxious to get the maximum amount of money for his salable timber and welcomes the forester who promises him more income by leaving certain trees to grow. This aspect of the forester's job is important, but it may prove futile unless the farmer is made to accept the long-term concept of a woodland enterprise and plans accordingly.

If we accept the premise that farm forestry is basically a farm problem—and it is difficult to see how we can do otherwise—the question immediately arises, is the remedy for our poor showing thus far more farm foresters on the job? The U. S. Forest Service believes that it is. The

Higgins Lake Committee, called together by The American Forestry Association last July to recommend a national forestry program, made a similar proposal. Yet, despite this, the writer does not believe that more foresters will provide the answer we are seeking. In his opinion, what is needed is a change in approach—a change in the basic philosophy that determines the attack on the problem.

There must be an alliance with the great fraternity of agricultural teachers and workers so that they feel an equal responsibility with the foresters for the success of the farm forestry undertaking. This will not be easy to accomplish. The agriculturists have been left out of the picture for so long—or have by preference remained out—that considerable "meeting of minds" will be necessary before a satisfactory working relationship is established.

Organizations like the Extension Service, the Soil Conservation Service and the Farm Security Administration deserve a larger share in the program, provided, of course, that foresters and agriculturists come to a common understanding as to objectives. But more important is a psychological awakening on the part of both. When this happens, and when objectives and efforts are merged, more foresters may prove desirable, with agriculturists to back them up and take over their share of the job.

What agriculturists can do is to build a tradition of forestry—of wood as a crop—into the American farmers' thinking and philosophy. To achieve this, agricultural teachers must themselves become ingrained with that ideal. Once the tradition is established, forestry will flow from so many fountains that farmers will take a woodland enterprise for granted. They will then demand the help of foresters, not alone to market

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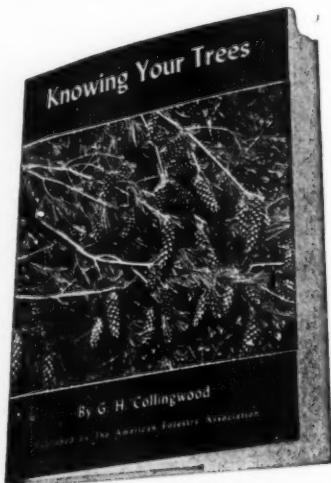
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"ready to cut" timber, but to assist them in cultural operations to develop immature stands for the future.

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## Coconut Palms

(From page 61)

Sina's father built high mountains on Upolu and took his daughter to the highest peak, but still the eel followed her. Finally, in desperation, the father slew the eel. As he died, he sang a sentimental song to Sina —now an old folksong, "Sina e, ai ni ou alofa." In the song, he told Sina to bury his head. She obeyed—and from the head grew the first coconut palm tree. When she saw the first fruit, she recognized on it the eyes and mouth of her loved one—those three round markings that since then have invariably been a distinguishing mark on the coconut.

The American visitors learned, too, the dependence of the native on this palm tree, the astonishing number of ways in which the coconut palm pervades every phase of his existence, the intricacies and skills that are involved in adapting every part of the tree to the islander's everyday needs.

From the trunk he makes posts for his sheds and his pig fences, steps at points where stone walls are to be crossed, bridges over creeks, walking sticks and ceremonial staffs, rollers for pulling boats high on the beaches or returning them to the water, spikes for his planting work, strips of the trunk for the curved ribs that form the framework of the roof of his house, pieces of the trunk for fuel in cooking.

From the frond he makes the coarse mat that goes next to the floor of his house, placing mats of finer weave made from other materials on top of it. His house is open on all sides—but each side is equipped with curtains constructed exactly in the fashion of our Venetian blinds, the blades being made of woven coconut fronds. For the inner layer of his roof, a web of coconut fronds is used; the thick outer layers are usually leaves of other plants or trees.

Tightly woven coconut leaf platters are used at all communal feasts. These are made from the fresh green leaf and are discarded after the meal. They appear clean and attractive even to the newcomer in the islands and add an appetizing color to the strange viands heaped upon them. At the same feast, the posts of the church

or house are covered with coconut fronds for decorations, and if the feast should be outside a quick canopy is constructed of these fronds to shade the guests from the sun.

One would violate the best South Sea traditions if he carried food home in a basket that had not been woven of fresh green coconut fronds that morning. One of these baskets can be constructed in five minutes by a young boy or girl; and in community contests between school children a basket weaving race is an event of great rivalry and excitement.

There are many ways to catch fish near the South Sea beaches, one being to drive them into large nets by means of a system of vines to which coconut fronds are attached. A group of natives draws the rough coconut frond net through part of an inlet, herding the fish toward the finer net where they are trapped. At shallow and narrow tidal inlets they stretch a sheet woven of coconut fronds across the inlet at high tide. This prevents the exit of the fish; then when the tide is out they simply pick them up from the flats.

When a Polynesian speaks of the midrib of the coconut leaf he always distinguishes between the large mature leaf midrib, or *lapalapa*, and the young leaflet midrib, or *tuaniu*. The former is stiff and tough and strong and can be shaped into tongs for removing hot stones from an earth oven, can be cut into thin strips for making durable baskets or into still finer strips for the cutting "wires" of a mincer in preparing food. The latter, with less strength and more pliability, is used for such purposes as holding leaves together in thatch work, as pipe cleaners, in bundles as brooms, for stringing lama nuts or tobacco leaves, or as nooses for catching shrimp.

The dried husk is used as fuel in ovens, copra dryers and lime kilns and often serves as a firebrand (matches being a rarity in normal

times) to carry fire from house to house. It is carved into stoppers for bottles and into other articles of minor importance. But its great value lies in the tough fibers, called *coir*, which are separated and spun and braided into a cord of notable strength. Every resident, native or white, of the South Seas has seen this brown cord, known as *sennit*, and its multiple uses, particularly as a substitute for nails in holding the beams of a large house together, or for holding in place the parts of a canoe and its outrigger appendages.

The common use of the inner shell is as a drinking cup. The lower, or blunt end half is scraped, polished and decorated until its surface resembles a piece of dark lacquer ware. Many a marine and soldier has accepted a native beverage from these cups, called *ipu niu*. Other uses to which the shell is put are the sharp edged instruments for scraping yam, taro, or breadfruit before cooking, and for such articles as funnels, belt buckles and buttons.

As for the meat of the nut, every marine knew the taste of coconut custard and chocolate coconut candy before he left the states, but in the land of the coconut palm he learned that it can be delectable in many dishes prepared in many ways, that the fresh meat is as superior to the dried product as the fresh is to the dried peach. He may have discovered also that the South Sea islander has an unlimited variety of dishes, cooked and uncooked, in which the fresh coconut is the principal ingredient and source of flavor. Also that, lacking grain, it is his main form of chicken feed.

And then, the curiosity of the Americans brought to light the basic fact that the islands' economic structure was dependent in quite a different way upon the coconut palm. In most of the islands, particularly the atolls, every last article that had come, before the war, from industrial



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lands over the great distances of the Pacific to the homes of the natives, had arrived only because a certain tonnage of copra (the meat of the nut), the sole export of the island—the sole "money crop"—had been shipped out in exchange. Thus every sewing machine, every needle, spool of thread, button possessed by the native, every yard of cloth, every "civilized" garment, every comb, toothbrush, mirror and metallic object, any pin, knife, steel tool, cooking utensil, any piece of crockery, any kerosene lamp or drop of kerosene oil, every musical instrument, every guitar or ukulele string, every bit of canned food, piece of candy or chewing gum was being enjoyed by the native only because he had harvested and shipped out a crop of copra.

Those of the GI's whose curiosity and breadth of interest led them to inquire into the use of copra, what happened to the millions of pounds of it that had been reaching the United States and Europe each year, learned that it is an important source of fat; that it is a leading item in the manufacture of soap, margarine, salad oils, shortenings in pastry, various products of the cosmetic industry. And far from its least importance as a raw material is the fact that it is a source of glycerine with which to make nitroglycerine in order to make more gun powder to make more shells and bombs to be sent by both sides back to the Pacific to shed more blood and end more lives and knock over more coconut palms. The native did not know about these things that the white man did with copra. All he knew was that the white man's money and manufactured articles came into the island because copra went out.

The two GI's on their homebound ship—along with hundreds of other marines and soldiers—had gained a

broad education about the coconut palm and could put that knowledge to work. As they passed within a few miles of any atoll that had gained a name in Pacific history, they pointed out the islands where the principal fighting had occurred. On these islands, in contrast with others in the ring, the boys could see the palm trees broken off at various heights; broken, split, chewed, mangled and uprooted in grotesque and ugly shapes, attesting to the ferocity and thoroughness of the heavy shell fire and bombing before the beach head had been established. The GI's had learned that the rain and heat and sun of the tropics have a way of covering dead things with luxuriant vines which rot them, then of growing new coconut palms where former generations of palm trees have grown and died. These men knew that probably within a decade tropical nature would hide the hideous and destructive work of man under her own protective cover.

"See those palm trees along that beach, Joe, leaning out over the water? Funny how they can stand against the strong wind from the sea—they ought to be bending landward. And do you see that coconut dropping off the tree right into the water? Some folks would think it was wasted, but they don't know that it's got a water-tight skin and can float and drift for weeks and months till it reaches a far-off island shore, where it'll send out its shoots from its three little 'eyes' and grow itself into a tall, graceful coconut palm."

"Yes, sir, I can see it now with its fronds all silver in the moonlight. I can hear it swish in the evening breeze. And I can just taste that coconut milk and sweet coconut meat. That's quite a piece of vegetation—that coconut palm tree—it's something good to remember."

### AUTHORS

LORINE LETCHER BUTLER (*Road to Birdland*) writes and lectures extensively on the subject of birds and outdoor life. She lives on Long Island, New York. J. A. DONERY (*Forests of South Dakota*) was Lake States regional consultant for the Forest Resource Appraisal of The American Forestry Association. ROBERT P. PARSONS (*They'll Remember the Coconut Palms*) is a captain in the U. S. Army Medical Corps in which he has served since the onset of World War I. Trees are a hobby with him and in his travels the coconut palms have been especially interesting. A. R. SPILLERS (*A Forest Goes Back to the People*) is now chief of the division of private forestry, U. S. Forest Service.



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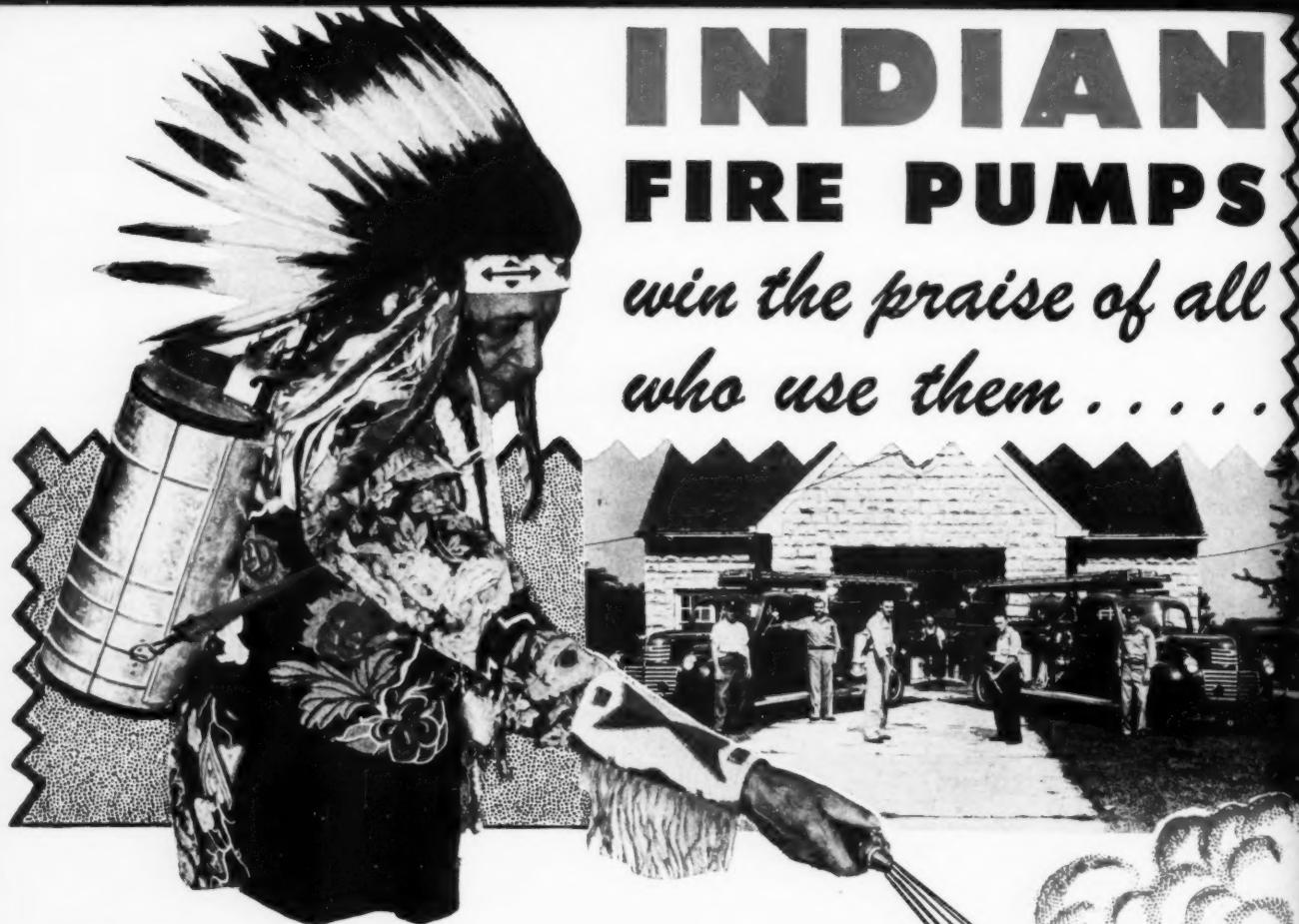
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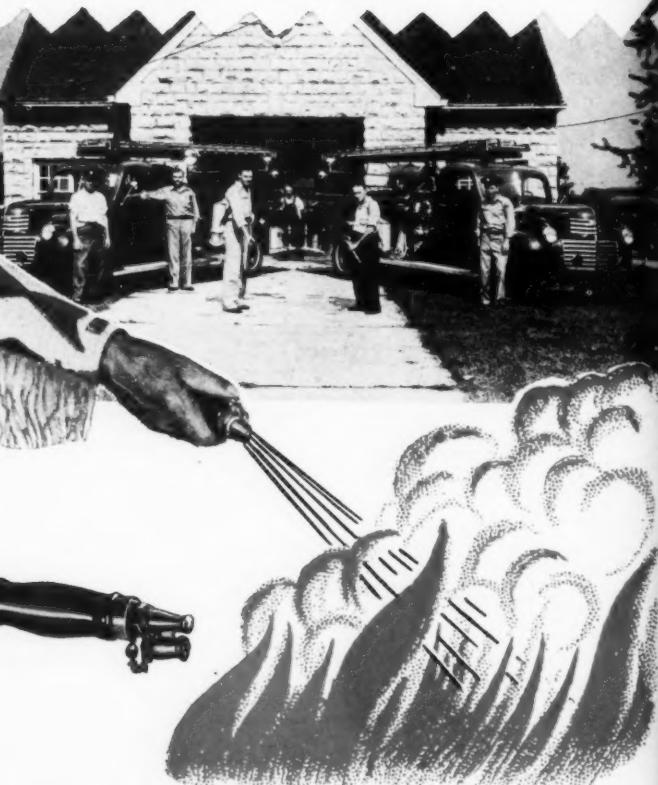
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